

MEDICAL ESSAYS

AND

OBSERVATIONS,

ABRIDGED

From the Memoirs of the Royal Academy.

VOL. II.

CONTAINING

- I. A Continuation of the SURGICAL Papers.
 - II. ESSAYS on particular MORBID CASES.
 - III. A REGISTER of the EPIDEMICS that reigned in PARIS.
 - IV. An ABRIDGMENT of the METEOROLOGICAL TABLES, from 1688 to 1750.
 - V. An APPENDIX concerning the Formation of MONSTERS.
 - VI. EXTRACTS from the ELOGIUMS of the principal AUTHORS of those MEMOIRS.
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By THOMAS SOUTHWELL, M.D.

LONDON:

Printed for J. KNOX, Bookseller, in the STRAND.

M,DCC,LXIV.



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MDCCLXXV.

MEDICAL ESSAYS AND OBSERVATIONS.

Anatomy and Surgery.

An historical Dissertation of Amputation, what Improvements have been made in it, and by whom. Also an account of all the Means employed to stop Hemorrhages of all kinds, since Hippocrates's Time, down to the End of the last Century, 1732.

N. B. Surgeon *Petit* treating of the means of stopping the blood after amputations, &c. (see Vol. I. p. 378.) seemed to think that astringents and styptics were rather hurtful, as they delayed the formation of his *plug*, Doctor *Petit* in the year following, takes a review of all these astringents, &c. and from their mechanism and action clearly evinces the contrary; but as he had given after the history of amputation, it was thought proper to let that precede the means of stopping the blood after the operation.

CELSUS who wrote in the beginning of *Tiberius's* reign, is the first author now extant, who has described this operation; he
VOL. II. A does

does not insinuate that it was then new ; and tho' it is pretended that he borrowed his surgery from the works of *Hippocrates* and *Asclepiades*, yet he never cites either of them for this operation. Where *Hippocrates* treats of the *gangrene*, he advises to cut away the rotten part, but no where describes the amputation of the limb. *Asclepiades* who lived in the reign of *Mithridates*, makes no mention of this operation. *Herophilus* and *Erasistratus*, who certainly performed several operations in surgery (see Vol. I. p. 200, *et seq.*), observe the same silence in regard to amputation. However, tho' no other before *Celsus* has described this operation, we must not infer from thence, that it never was practised before his time. Men have been in all ages pretty equally exposed to such accidents as may require this operation, such as gangrenes in consequences of fractures, contusions, &c. but probably it was not in those remote times so frequently performed as in after times, by reason most on whom it was performed, died of the hemorrhage during the operation : and no wonder ; they had no notion of compressing the artery during the operation. Even *Celsus* never made a ligature above the place he was to make his incision to compress the artery, or prevent the hemorrhage during the operation. All he says, is, " Between the sound and corrupted part, an incision is to be made with
" a

“ a knife in the flesh, as far as the bone ; but
“ this must not be done over a joint, and
“ some of the sound part must rather be cut
“ off than any of the unsound left : when
“ we come to the bone, the sound flesh must
“ be drawn back from it, and cut below
“ round the bone, that some part of the bone
“ may also be laid bare under it : then the
“ bone must be cut off with a saw, as close
“ as we can to the sound flesh that still ad-
“ heres to it, and then the fore part of the
“ bone that has been jagged with the saw,
“ must be smoothed and the skin brought
“ over, which in a cure of this kind ought to
“ be lax, that it may cover the bone as much
“ as possible : that part which the skin does
“ not reach, must be covered with lint, and
“ over it a sponge, squeezed out of vinegar
“ must be tied on the place : the rest of the
“ cure must be the same as I have directed in
“ wounds, which are brought to digestion.”*

In all this there is no direction to stop the hemorrhage, and that was the reason why the patient often died during the operation. What is further very surprising is, that we find no method to suppress hemorrhages in any surgical writer before the 16th century.

Paul of Ægina and *Avicenna* are silent about it. *Guy de Chauliac*, who lived about the middle of the 14th century, made two

A 2

liga-

* Cels. Lib. 7. c. 33.

ligatures, one above, the other below the part he made the incision on; but he does not tell us whether he did it to prevent the hemorrhage, or to deprive the part of the sense of feeling: but it is easy to comprehend his sole view was to brace up the flesh, that he may cut it both more even, and with more ease, which is practised even at this day; nor does it appear that *Vesalius* ever made use of a ligature to prevent the hemorrhage during the operation.

Bartholomæus Maggius, who wrote in the middle of the 16th century, made a ligature on the sound part, above the place of his incision to deprive the part of the sense of feeling. He is quite silent as to preventing the hemorrhage during the operation: all he says is, that *Celsus* made a ligature above the rotten part; but *Celsus* says no such thing. *Vid. Supra.*

Botallus, who was Physician to *Char. IX. of France*, tells us, they used to make 3 ligatures in his time; one probably to deprive the part of all sense of feeling, tho' he does not positively say so, and the other two, one above, the other below the place of the incision, without ever taking notice of the means of stopping the blood*.

Pareé †, Surgeon to *Charles IX. of France*, advises to pull up the flesh, and with a strong flat fillet to make a tight ligature above the place

* De Vulnerib. c. 23.

† Livre 12.

place of incision. This ligature says he, will
1st, Keep up the flesh. 2dly, It will prevent
the hemorrhage during the operation. 3dly,
It will deprive the part of all sense of feeling.
This is the first author who has wrote intelligi-
bly on the means of stopping the hemorrhage
during the operation.

Pigray, both the *Fabricij Abaquapendente*
and *Hildanus*, and all since their time follow
Pareé herein; however, the above ligature
did not always prevent the hemorrhage, which
induced one *Morel*, Surgeon to the army, and
a very ingenious man at invention, to contrive
some more effectual method of stopping the
hemorrhage during the operation: according-
ly he invented the *tourniquet* in 1674, at the
siege of *Besançon*, and employed it as it is used
this day *.

The *tourniquet* has certainly the advantage
of *Pareé's flat fillet*; it equally keeps up the
flesh, and more effectually stops the hemorr-
hage, and deprives the part of all sense of
feeling during the operation.

It must appear very extraordinary that *Ga-
len*, who wrote several surgical tracts, never
mentions this operation, the more so, as un-
doubtedly it must have been practised in his
time at *Rome*, seeing it had been practised by
Celsus near 100 years before. What is to the
full as extraordinary, *Galen* quotes neither
Phi-

* Vide l'art de Saigner par Meurisse, 1728.

Physician nor Surgeon who performed this operation, nor does he even mention *Celsus* once in all his works.

We have seen where *Celsus* directs to cover the stump with the skin, but it does not appear how that could be done, as he does not direct to leave a flap underneath, as *Sabourin* has since directed (see Vol. I. p. 123).

Celsus's obscurity in this place induced others to fasten the skin on the stump, by the cross-stitch.

Paul of *Ægina* *, who lived in the 7th century, is the first after *Celsus*, who speaks of this operation: he is full as obscure as *Celsus*, nor does it well appear whether he made his incision in the sound or unsound part: he relates the manner *Leonides* performed it; he only adds, to use a large fillet to keep up the flesh out of the way of the saw, to prevent giving pain, by which one should think he made the incision in the sound part; and to stop the hemorrhage, he employed the actual cautery.

Avicenna lived in the 12th century, to avoid the hemorrhage during the operation, he cut in the rotten part, and used after the actual cautery, to consume the rotten flesh he had left †.

Guy de Chauliac after the example of *Paul* of *Ægina*, used the fillet to keep up the flesh, and

* Lib. 6. c. 48.

† Tom. 2. Lib. 4.

and employed after either the actual *cautery* or boiling oil *.

Vesalius who lived in the 16th century, gives a confused account of this operation: he mentions a ligature, but does not tell us how he made it, or to what purpose: he makes his incision with a warm knife, but leaves us to guess whether he made it in the sound or unsound part: he applies the actual *cautery* till the patient is sensible of it: and this is all the reason we have to think that he made his incision in the unsound part: he likewise cauterizes the bone, in order to promote its exfoliation †.

B. Maggius cotemporary with *Vesalius*, cut on the rotten part, uses the same *cautery* or boiling oil. This is nearly *Guy de Chauliac's* method ‡.

Botallus describes the operation, as *Maggius* does, but does not mention oil; as he observed the operation was tedious, and that besides the sawing the bone gave too much pain, he describes a *machine* that chopt it off at one blow: this consisted of two broad kinds of knives, not unlike a Butcher's cleaver; the under one was fixed in a solid piece of wood; the upper knife was likewise fixed in another piece of wood, which was placed in a kind of frame, that had a groove in it, for

* *Magna Chir.* à Juberto Edita. c. 8.
l. 5. c. 12.

† *De Vulnerib.*

‡ *Chir. mag.*

for the knife to play up and down as there was occasion ; the upper piece had a sufficient quantity of lead fixed in it, to render it sufficiently heavy to cut the bone in two : the bone was laid on the under knife, the upper knife was let fall, which at one blow severed it.

Botallus quotes one *Maitre Jaques*, a Surgeon, who employed it with success * : But *F. Hildanus* opposed it, as it too often shattered the bone, which rendered the cure the more difficult.

Pareé cotemporary with *Botallus* made his incision in the sound part with a crooked knife ; he also used *Paul* of *Ægina's* fillet to keep up the flesh, and used likewise a kind of dagger to cut the flesh between the *tibia* and *fibula* in the amputation of the leg ; after he had sawed the bone, he took up the artery with the *artery-forceps*, and made the ligature with a double waxed thread, including some of the flesh in the noose, and brought after the flesh and skin to cover the bone, and made the cross-stitch but never tight, to retain them there. Whenever any of the ligatures slipped off, *Pareé* never attempted to search for the vessel, but orders a strong man to clasp the limb with both his hands, and to press hard on the part, according to the direction of the artery ; he then takes a long strait needle, armed with a strong four doubled thread ; he thrusts

* Ubi supra.

thrusts this needle on the outside, thro' the skin into the flesh, so as to surround the end of the loosed vessel; he returns the needle thro' the flesh and skin, leaving the space of one finger's breadth between both ends; he then makes his ligature, putting a four double compress under it to prevent its cutting the skin.

Pareé is undoubtedly the first who made use of the ligature to take up the artery after amputation. One *Gourmelin*, a Physician of the faculty of *Paris*, opposed him with some vehemence, attacking both his person and practice in the most injurious manner, but to very little purpose; for *Pareé*'s ligature was found very useful to stop the blood after all great operations, and has been generally used by most Surgeons since his time*.

Pareé

* Notwithstanding this high encomium in favor of *Pareé*'s ligature, the greatest masters in this art have often since experienced the many inconveniencies attending its use, which might well justify *Gourmelin*'s objection to it at the time. "It is not possible (says he) that tendinous and aponeurotic parts, tied up and strangulated by a ligature, shou'd not excite inflammations, convulsions, and soon cause death." It must be confessed this is often owing to the ignorance or fault of the Surgeon in taking up more parts in the noose than was necessary. The *French* Surgeons we find have been so sensible of this, that they with great chearfulness purchased *Brossard*'s secret of stopping the blood in the place of the ligature. *M. Morand* speaking of this secret (the *agaric* of the oak) says, "It is an useful discovery to know how to stop the blood, when the brachial artery is opened, without being obliged to tie the vessel; and the history of it is interesting". *Mem. de Chir.* tom. 2. p. 220. Excrescences of the oak have been long before this employed

Pareé has made some other improvements in this operation, which are not to be found but in his writings, tho' he does not attribute them to himself; he certainly was the first who made use of a crooked knife, to make the incision with.

B. Maggius who wrote a little before *Pareé*, makes no mention of such a knife; he is also the first that directs the cutting the flesh between the *tibia* and *fibula*; he is likewise the first that advises to bring the flesh and skin to cover the bone, and employs the cross-stitch to keep them there; this method was useless to those, who made their incision in the mortified part, or used the *actual cautery*.

D. Senertus does but transcribe *Pareé*, and *Pigray* differs from him in this only, *viz.* if he cannot take hold of the artery with the *artery-forceps* as *Pareé* did, he cauterizes it.

Gul-

for the same purposes. *Cbr. Encellius* l. 3. de lapid. c. 51. assures us, that nothing so effectually stops all kinds of hemorrhages as the *uva quercina* called also the *oak-grape*. Neither the *agaric* nor *uva* seem to act by any peculiar astringent quality; their efficacy seems rather to depend on their natural softness and aptness to mould themselves to the mouths of the cut-vessels they are applied to; the *Indians* have their moss for the same uses; it is of a lanuginous nature: we read in the magazine for *June*, 1763. of a styptic, which is easily prepared, being only soap dissolved in brandy with a little pot-ash; dossils are dipped in this mixture warm'd and applied after to the vessel; we are there told that experiments have been made on animals, and that their largest vessels were stanch'd by it.

Guillemeau agrees with *Pigray*, but makes the ligature of the vessels in a different manner ; he takes up the artery as they did ; but makes his ligature on the skin, putting a little compress under it to prevent its cutting the skin. This method has not been followed by any except *Dionis*, who has made some alterations in it. *

Fab. Abaquapendente made his incision, as *Avicenna* and *Vesalius* did in the mortified part, to prevent the hemorrhage, and used after the actual *cautery* to consume what he had left of the rotten part ; but this method has many inconveniencies ; for notwithstanding all care possible, there still may remain too much of the rotten part to infect the sound ; besides, after the operation a great part of the bone remains bare, which must necessarily retard the cure †.

Severinus describes the operation as *Pareé* does, but he does not make the ligature of the vessels ; all he does is to bring the skin over the stump, and by the help of the cross-stitch to keep it there §.

Fab. Hildanus makes a tight ligature to stop the circulation of the blood ; he after envelops the part in a kind of leather bag, whose lower end may be pulled tight like a purse, and with a double edged knife, he cuts the flesh to the bone ; he then tightens the above

B 2

purse-

* Chir. p. 500.

† Chir. cap. 96.

§ Chir. cap. 9.

purse-like bag, and with it pulls up the flesh, and prevents the blood's covering the part of the bone he is to saw; when he has sawed the bone, he unties his ligature, takes away his *purse-like bag*, and cauterizes the vessels with the actual *cautery*; what is here singular, he lays the limb on a form. *Hildanus's* leathern bag is not near so commodious as the usual fillet; he admits of the ligature for the young and robust only; he injudiciously quotes *Celsus*, *Galen* and *Avicenna*, as making the ligature of the vessels after amputation, whereas they never used it but in wounds, to take up such vessels as were then opened.

Hildanus brings both the skin and flesh to cover the bone, but does not employ the cross-stitch to retain them, to avoid an inflammation, which often attended this cross-stitch, especially when too tight, which was then obliged to be cut*.

Vigierus, *Barbette* and *Nuck*, copy *Pigray*, *Nuck* is the first who makes mention of *Morel's tourniquet*; he looks upon the ligature to be too painful, and for that reason prefers the actual *cautery*. But he must certainly be mistaken; the ligature when properly made, is both less painful and more secure than the *cautery*; he further tells us that the *crepitus lupi* will stop the blood; the *Dutch* and *Germans* use it to stop hemorrhages to this day.

Chari-

* Cap. 23. de Sphacelo.

Charriere, * *Verduc* †, *Dionis* do but copy their predecessors ; *Dionis* makes two ligatures one on the vessels, the other as *Guillemeau* did ; but this is too complicated ; so the ligature is now universally made as *Pareé* directed, and is practised by all the best Surgeons every where.

Besides the ligature, *Dionis* says, one may stop the blood with a peg of *vitriol* ; but it never stops the blood so well as either the actual *cautery* or ligature ; and as it must be liquified before it can act on the flesh, and cut ends of the vessels, it is slow in its action §, those who employed it were obliged to lay graduated compresses over it, besides other longitudinal ones on the route of the vessels, together with a tight bandage, in order to compress them ; they had besides the caution to leave a man to hold the stump in his hand, which its true they did in all amputations, but they were here doubly careful ; *Cypress vitriol* is what they always used ; they avoided strong suppuratives to prevent the *eschar*'s falling off before the ends of the vessels were consolidated and entirely closed up.

Conjectures concerning the Action of Cauteries.
Ibid.

M. *Petit* distinguishes *cauteries* into *actual* and *potential*, the actual cautery is *fire*, red
hot

* P. 321. † p. 351.

§ *Salia non agunt nisi dissoluta.*

hot iron, boiling oil or water, &c. when this cautery is applied to a living animal's flesh, the air contained in the lymph of the part is suddenly rarefied, which soon raises the skin in form of a blister; all actual cauteries act the same way; potential cauteries with respect to their action are threefold, 1st, Such as act on the flesh only. 2dly, Such as act on both the skin and flesh. 3dly, Such as act on the skin only; the first are *Cypress vitriol, arsenic, corrosive sublimate, &c.* of the second, some are liquid, others solid; the liquid burn both the skin and flesh in an instant; such are oil of *vitriol*, spirits of *nitre, aqua regia*: the spirits of *salt* and *vitriol* cauterize but lightly; the solid potential cauteries are either metal-line or saline; the first is *lunar caustic*, the second is *lapis infernalis*; these last burn both the skin and flesh, forming an *eschar* without exciting any great pain.

How these caustics act is thus; all bodies that have been calcined, contain in their pores particles of *fire*; when any of those calcined bodies are applied to the flesh of a living animal, the perspirable matter penetrates those calcined substances, by that means the imprisoned particles of *fire* are set at liberty, which being retained on the part by the plaster, always laid over those caustics, soon corrodes the part as so much actual fire wou'd; that this is the true mechanism of all potential cauteries is evident

evident from this, that no potential cautery will act upon a dead body, or upon any mortified part of a live body.

Van Helmont was the first that observed this; *M. Petit* has made several experiments, which confirm what he had said; but clearly to evince the matter, he took care to apply warm cloths in another experiment over the cautery. These warm cloths dissolved the caustic, so as to enable it to act on the dead flesh, which otherwise it wou'd not touch.

The 3d kind of potential cauteries affect the skin only; such are all those things employed to blister as *cantharides*, *crows-foot*, *radix thymæleæ*, &c. several prefer *crows-foot* before the flies, among those *Fab. Abaquapendente*, who affirms he never observed any stranguary after it.

Thus have we seen the improvements made in this operation, by which means it is become less cruel, and at the same time more safe; the patient never dies now of an hemorrhage during the operation, especially since the invention of the *tourniquet*; the ligature after effectually secures the vessels; the cure is likewise more speedy and easy, since all *cauteries* and *caustics* have been laid aside; and since Surgeons have come into the method of dressing seldom those kinds of wounds.

Of

Of the several Means hitherto employed to stop Hemorrhages, &c. 1732.

Whenever either a vein or an artery, thro' what accident soever was opened, it naturally occurred to the person, or those about him to lay their finger on the orifice of the cut vessel; but finding the blood did return after the finger had been taken off, they were under a necessity of applying something else to stop the blood; probably the first thing that occurred to them was compresses or wads of tow either dipped in cold water, or in vinegar, rolling some tight bandage over them; but as this method was not sufficient to stop the blood, when any large vessel was cut or opened, especially if it was an artery; they were obliged to apply something more powerful; experience taught them, that among those several earths and salts they employed, some wou'd coagulate the blood at the orifice of the vessel, while others acted upon the vessel itself, by contracting or bringing its sides together; and these they called astringents; such are *bol, terra sigillata, chalk, starch, lime, japan-earth, lapis hæmatitis, colcothar, alum, spiders web, galls, cotton, &c.*

All these substances contract both the flesh and fibres of the vessels, by which means their cavity is lessened, and that by absorbing the juices contained in their substance; they also employed

employed the juices of plants and their gums ; such as the *succus acaciæ*, *aloes*, the gums *bdellium*, *mastic*, *dragon's blood*, *gum ammoniac*, *rosin*, &c.

It was believed that all these were emplastic only, *i. e.* by keeping the lips of the cut vessels together they happened to stop the blood ; but by the experiments M. *Petit* has made, they are truly astringent. *Hippocrates*, *Celsus*, *Galen*, employed every one of those astringents ; but as they were not always sufficient to stop the blood, when any large vessel was opened, they often cut the vessel across ; and as both ends of the vessel withdrew themselves within the flesh, compression only was sufficient to stop the blood ; but if the vessel was opened by a sharp instrument, they stitched both lips together ; they wou'd in like manner take up the vessel, as often as they cou'd, but where it was out of their reach, they cauterized it.

Ætius, *Paul of Ægina*, *Rhasis*, *Alfaharavivius*, *Avicenna*, *Actuarius*, *Tagautius*, in fine all the Physicians since *Galen's* time made use of these same means to stop the blood ; *Theodoricus* only, who published his surgery in 1490, mentions his using a sublimate made with *arsenic*, which he says, stops the blood suddenly ; but he has not been herein followed. Most Surgeons seemed to like the *peg of vitriol*

better. The *Dutch* and *Germans* still employ their *crepitus lupi*.

Besides the foregoing methods to stop hemorrhages, the moderns have invented several kinds of bandages to compress the vessels, and suspend the circulation of the blood. *Scultetus* in his *Armentarium Chirurgicum*, tab. 17. fig. 6. has one of this kind, to stop the blood in the artery of the wrist, when thro' some accident it is opened: the principal part of this *machine* consists of a moveable plate of iron, which is pressed against the artery by a screw, fitted to another immoveable plate of iron: this has served for a model for all those invented of late to stop hemorrhages*. The *machine* called *Bourdelot's ponton*, was made from the same; it was employed like the former to compress the artery in the arm, during the operation of the *aneurism*, which had been performed on that learned Abbot; and the only difference between this and *Scultetus's* is, that *Bourdelot's* is somewhat crooked; and covered with leather and stuffed, the other is not.

The method *M. Petit* took to discover the force of the foregoing astringents was this; he powdered and sifted the following, common bol, *terra sigillata*, plaster of *Paris*, slacked lime, crabs-eyes, cotton, spiders-web, lapis

* Doctor *Petit* had certainly here in view Surgeon *Petit's machine*, on which he valued himself so much in the *Marquis of Rotelin's* case, and which he wou'd pass upon the public as his own invention. See Vol. I. p. 383.

lapis hæmatitis, coralline, sumach, balaufts, bistort and tormentil-roots, galls, dragons-blood, *succus acaciæ*, oppoponax, rosin, storax and benjamin, gum-arabic, sugar, green, blue and white vitriol, roch-alum, common salt: he put a layer of these powders under, and another over the meat he made use of, observing to weigh it first: the quantity of meat he made his experiments with was 16 drams of either beef or mutton; when this meat had been 24 hours with the said astringent powders, he weighed it, and set down how much it lost of its weight in that time; he put it into fresh powder for 24 hours more, weighing it as before, and repeated the same four several times, carefully noting the diminution in the weight in every 24 hours; he made the same experiments with all the known *astringents*, *absorbents*, *stiptics*, &c. and the result of them all was, 1st, That generally they all absorbed more the first than the last two days, and more the first than the second day. 2dly, That the most powerful *astringents* absorbed but 5 out of 16 drams of the weight of the meat employed. 3dly, That all that goes under the name of the *testacea* gave the meat a rotten smell. 4thly, That vegetable substances are in general more powerful astringents than the *testacea*; galls absorbed 6 drams 19 grains, and gave no bad smell to the meat. 5thly, All the saline astringents,

gents, such as all the kinds of *vitriols*, *alum*, *sea-salt*, and their solutions, tho' they are not more powerful astringents than the vegetable substances, yet they have this advantage of preserving the meat better and longer than any of the rest: they besides increase the weight of the meat the 3d and 4th days; for after the salt has imbibed all the moisture it cou'd; if the meat is left longer with the salt, this must penetrate the meat, and by that means increase its weight.

All the mineral acids wou'd soon dry it up, if there was not water added to them; they never extracted any tincture from it.

Spirit of wine diminished but 3 drams 15 grains in 4 days. Spirit of wine tartarised, diminished 4 drams 8 grains in the same time. Spirit of wine and camphire diminished 4 drams 3 grains. None of them extracted a tincture from it.

From all these experiments it appears there are two kinds of *astringents*, one absorbs the moisture without parting with any of its own parts to preserve the meat from corruption. These are all the *testacea*, and most of the vegetable astringents and animal substances, as the spider's web, *crepitus lupi*.

The second kind of astringents not only absorb the moisture of the flesh; but they also part with some sulphurous and saline parts, which penetrate the flesh, and preserve it from putrefaction.

But

But of all the things employed, *vitriol* and *alum* absorbed most, and tho' their parts did penetrate the flesh, yet the flesh was still lighter in them than in any other saline substance.

All absorbents act more powerfully upon a living animal's flesh than upon the same flesh deprived of life: in the former state, every fibre has a natural contraction, which assists the action of either astringents or caustics, as was before explained (see before p. 15.); whereas all the fibres of a dead animal have lost all their action.

A Prolapsus uteri fatally mistaken for a tumor,
1732.

M. *Gaulard* informed the Academy that a lady about 71, who was mother of 13 children, experienced at that period of her life more exquisite pain than in all her former lying-in's; that without the assistance of any body, she was delivered of a large fleshy substance weighing 4 pounds, which might be taken for a *mole*; that the next morning she found some thing, as if it was to come away; accordingly she got a midwife to examine her, who perceiving some thing which she cou'd not bring away, and unwilling to use violence, she left it behind; that this substance appeared soon after 2 fingers breadth without the *vagina*, as big as one's fist. M. *Gaulard* judged it was the womb; others both Physicians
ans

ans and Surgeons, who thro' the singularity of the case visited the patient, were of opinion that it was a scirrhus of the womb, and advised the ligature. The patient lived 18 days after the ligature was made, and died the 38th of her illness. Upon opening her after death, it was known, that it was the womb, which the former fleshy substance had inverted, and dragged after it. Had the case been properly attended to, the womb might probably be replaced, and the patient might have survived it.

An uncommon Dropsy of the left Kidney, 1732.

M. Patras, Physician at Grenoble writes, that a lady there about 47 years old, upon the death of an only son took excessive grief, and from that time grew daily very feeble, and began to waste in her flesh; 19 months after she complained of a tumor in the *hypogastrium*, which M. Patras confesses he then took to be the womb; this tumor increased daily; all the abdomen was swelled, a fluctuation was sensible in it: it was agreed to tap her, which was twice done; the first time a few drops of blood only came, and the second time nothing came; she was twice after tapp'd, but nothing came from her: in some time after her legs burst, and discharged during the space of 15 days a good deal of water, which relieved her breathing considerably; her hectic still

still continued, which reduced her so excessively low, that she died most amazingly emaciated.

Upon opening her it appeared that it was the left kidney that was so monstrously swelled; it weighed 35 pounds; the extravasated *serum* cou'd not find entrance into the *canula*, so closely applied to this solid substance. This case evidently shews, the influence the mind has over the body, so as to *derange* and alter its very structure.

A monstrous Epiploon ossified, 1732.

M. *Mongin* related that a maiden about her 34th year perceived a tumor directly under her stomach, which continued increasing to the 70th year of her age, by which time it became monstrous; she however, continually kept stirring about: at her 72½, she happened to get a fall, upon which she became dropsical, which hastened her end. When she was opened, the *epiploon* was found as big as a large melon, and intirely ossified; it weighed 13 pound 9 ounces; it might appear strange that the fat cou'd ossify, but it is well known that acids will harden wax, so as to be easily reduced to powder. M. *Mongin* knew a man, who was ordered to live intirely on milk; he became quite bound in his body, 'till he discharged a considerable quantity of small stones, which M. *Mongin* thinks were produced

ced by the caseous and butirous parts of the milk, and the acid juices of the patients stomach.

Of the Fistula Lachrymalis, 1734.

In the upper part of the orbit of the eye there is a gland, whose office is to secrete a fine lymph to humect and render the motion of the eye-lids over the ball of the eye smooth and easy; as this lymph is constantly supplied, there wou'd necessarily be a constant weeping of the eye, had not *nature* appointed two conduits to carry this superfluous lymph into the *lachrymal sac*; these conduits are known by the name of the *puncta lachrymalia*; the orifices of these *puncta*, one in the upper, the other in the under eye-lid, are always open to convey this lymph; and that they might remain open and not be exposed to every pressure, their orifices are cartilaginous. The direction of these *puncta* is towards the eye, and this is more so when the eye is closed, to be always ready, sleeping and waking to convey this lymph to the lachrymal sac, which is thence carried into the nose by the nasal duct. See Pl. 5. fig. 1. E is the gland that supplies the lymph, AA the *puncta lachrymalia*, B their trunk, C the lachrymal sac, D the nasal duct.

From the above short exposition of the parts of the eye it is easy to conceive, if thro' any cause whatsoever the passage of the lymph to the

the nose is intercepted, the lachrymal sac will be swelled; the matter by stagnation becoming acrid, soon forms an abscess, which in such spongy parts easily degenerates into a *fistula*.

Some have had their lachrymal sac swelled for years without any other inconvenience than being obliged to empty it often in the day; by pressing on this sac the matter returns by the *puncta lacrymalia*; but it often happens that during sleep this sac becomes œdematous, and is often ruptured, owing to the continual afflux of the lymph during sleep, which at length bursts the sac; this soon after degenerates into a *fistula*, especially where there is any *discrasia* in the lymph.

When this *fistula* becomes so troublesome as to require the operation, Surgeon *Petit* makes a semicircular incision in the lacrymal sac, at c, (Pl. 5. fig. 4.) and introduces a hollow probe into the nasal duct both to open it, and convey thro' it his *bougie* to keep this duct open; he changes this *bougie* every day, till he thinks the inner surface of the osseous nasal canal is cicatrized; he then withdraws his *bougie*, the exterior wound heals after in two or three days.

Surgeon *Petit* making further observations on this disorder, he tells (1740) that the Surgeon's intention in performing this operation, shou'd be these two, the one to cure the *fistula*, the other to remove the weeping attending it,

by opening the nasal duct ; and here he takes occasion to censure those, who content themselves with healing the *fistula* only, not seeming to think any thing of the weeping that often remains after ; and yet applaud themselves for their skill ; he compares such Surgeons to those, who shou'd boast of their curing a *fistula in ano*, where they had so contracted the gut, or destroyed its sphincter as in the first case to render it extremely difficult for the patient to discharge the *fæces*, or in the second case impossible for him to retain them ; the same may be said of a *fistula in perineo*, where the patient can neither make water freely, nor retain it ; this is what the above operators do ; they cure the *fistula lachrymalis*, but leave full as grievous a malady behind, a weeping eye.

The method Surgeon *Petit* employs to remedy both is 1st, he examines where the impediment lies ; whether in the *puncta lachrymalia* or in the *lachrymal sac*, or in the *nasal duct* ; for this purpose, he introduces a small buttoned probe into the inferior *punctum* (as being the easiest to come at) and if he can readily convey his probe into the *lachrymal sac*, he concludes the impediment lies in the nasal duct ; he enlarges this duct, and introduces his *bougie* into it in the manner before directed ; but when he cannot introduce his probe readily into the *lachrymal sac*, he concludes

cludes some membrane or fleshy substance has obliterated the orifice of the *fistula*; he takes this off rather with the knife than with a caustic.

When he has by these means opened the *fistula*, he then introduces his probe, to discover the state the *nasal duct* is in, and whether the *os unguis* is sound or cariated, i. e. whether the lachrymal sac has only the nasal duct to discharge itself by, or whether the *fistula* opens into the nose; he examines also the state the *puncta lacrymalia* are in, both with the probe and by injections made with the lachrymal syringe; if both the probe and injections pass from the *puncta* to the lachrymal sac, it is evident the *puncta* are not obstructed, and *é contra*, For sometimes these *puncta* are closed up, owing to the inflammation of the *conjunctiva*, and more particularly after the small pox, where the pocky pustules often close up the orifices of those *puncta*; these for the remainder of their lives may expect to have weeping eyes, it being impossible to open such narrow tubes as those *puncta*, when once cicatrized; but this might be prevented, had care been taken to deterge and cleanse those little ulcers, and now and again to introduce the probe to open them; for were those *puncta* inclined to close, the often introducing the probe wou'd prevent it, for the easier introduction of this probe or the finger into any other part, Surgeon *Petit*

recommends the white of an egg before oil ; he says, nothing so well assists their introduction ; he recommends to inject rose or plantain water into the same with *Anel's* lachrymal syringe ; if these helps are not early called in, this weeping becomes incurable.

He further advises, that in case the injection did not pass the first days, not to be discouraged but to continue it, and to try the lachrymal probe ; when all these means have been sufficiently tryed without success, he directs to use force, and thrust this probe into the lachrymal sac ; for if one does not succeed, he can do no injury to those parts.

If one has been happy enough to surmount the impediment, he recommends to employ injections to keep those lachrymal ducts open, and even advises to introduce either a fine leaden, golden or silver wire into those *puncta*, to take hold of the end of it in the *fistula*, observing with a pair of pliers to bend both ends back, which are to be left for some time, moving it as one does a *seaton* ; the operation wou'd be compleat, cou'd one do as much to the upper *punctum* ; but it is not so easy to inject or introduce a probe into the upper as into the under one ; when the patient has no weeping after the operation, one may conclude that the impediment lay in their *common duct*.

Surgeon *Petit* further observes that the pocky pustules not only close up the *puncta lachrymalia*

malia of both eyes, but also the nasal duct; the operator shou'd therefore consider whether the weeping that succeeds the small pox is owing to the closing up of the *puncta*, or of the nasal duct to guide him in his operation, or whether there is not a complication, an obstruction in both.

When Surgeon *Petit* has thus opened the *puncta lachrymalia*, he introduces the same day his hollow probe into the *nasal duct*, and thro' it his *bougie*, smaller at one end than at the other.

At the first dressing he only removes the doffil to apply a fresh one, without stirring either the *bougie* or *wire*, but in the subsequent dressings he draws the *bougie* half-way, and puts it back again, repeating this *manœuvre* two or three times, that the *bougie* might the better dilate the duct; about the 5th day he changes the *bougie* for a thicker one, and continues it until the tears follow their usual course thro' the nose; he at the same time takes care to move the wire in the *punctum* as he wou'd a *seaton*; he takes it away, when he thinks the lachrymal duct is consolidated; but for the greater security, he injects those parts, after he has withdrawn the *wire* and *bougie*, 2 or 3 times aday, until he has very good reason to expect the tears will be able to pursue their natural course.

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He recommends to use light dressings, to avoid compressing the *punctum*, especially while the wire is in it ; he after endeavors to heal the lachrymal sac, which if not intirely consumed, is not difficult to be done.

But when the *os unguis* is cariated, if he suspects any venereal *virus* in the case, he methodically treats that first, but when there is no such suspicion, he makes use of an instrument, one end of which is like a *rugin*, the other like a pair of scissars, to scrape and cut the bone, as he sees necessary ; he takes away as many of the little splints as he can see ; the remainder will come with the *pus* on the dressings ; he all this time takes care not to injure or pierce the *membrana pituitaria* ; he endeavors to discover whether the *caries* has injured it, by recommending to the patient to blow his nose ; if neither air, nor *mucus* are discharged by the *fistula*, the above membrane is not pierced ; this experiment shou'd be made before the nasal duct had been opened, otherwise it may be doubtful, whether the air came thro' the nasal duct, or thro' the passage from the *fistula* into the nose.

If after the *bougie* has been introduced both air and mucus are discharged thro' the *fistula*, upon the patients blowing his nose, there can be not doubt of the lachrymal sac's opening into the nose ; the largeness of this aperture may be guessed at, by considering if air only is discharged

charged, the aperture is small ; but if a thick *mucus* is discharged, it is large. Such a case might seem irremediable, but Surgeon *Petit* has succeeded, even when the lachrymal sac was almost intirely consumed, provided he cou'd remove the *caries* and open the nasal duct ; for while the *caries* subsists, no flesh can be regenerated, and if the tears had not their natural passage open, they wou'd always fill the *fistula*, pervert the nutritious juices and so prevent the healing the *fistula*.

When the *os unguis* only is cariated, this is easily destroyed, as it is so thin ; but when that part of the *os maxillare* that helps to form the bony canal called the nasal duct, is cariated, it is not so easy ; however with patience and some address the thing might be compassed ; it is certain the *lachrymal sac* suffers considerably in this case ; but it may still be regenerated.

To confirm this, Surgeon *Petit* related the case of a child 8 years old, who had the operation for the *fistula* performed in the country, in the usual manner, by piercing the *os unguis*. The operator left a leaden wire in the new canal, which was as thick as a quill of a pigeons wing.

Surgeon *Petit* took it out, and after he had examined whether the *os unguis* was bare or cariated and finding it was not ; he endeavored to introduce his hollow olive-shaped probe
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into the nasal duct, in order to introduce his *bougie*, both to open the nasal duct, and press against the new aperture made into the nose; for his view was to stop it up; to forward this, he dressed the patient dry, laying over it a compress dipped in the whites of eggs beat up with a little roch-alum; these dressings were continued for 5 or 6 days; he then took out the first *bougie*, and put a thicker one in; he had here the satisfaction to find that the country operators aperture was entirely closed up, and that by continuing the same dressings, and now and again keeping down the luxuriant flesh with *lapis infernalis* carefully applied, the *fistula* closed by degrees, and the tears recovered their natural passage, and compleated in a short time a cure, which for 6 months had been attempted in vain, owing to the manner the operation was performed.

*A further Inquiry into the Nature and Cure of a
Fistula Lachrymalis.*

It plainly appears from what we have here extracted from Surgeon *Petit*, concerning the *fistula lachrymalis*, that his chief view was to support his own method of performing the operation for the *fistula lachrymalis*, and the use of his *bougie*, in opposition to the method then in practice, of perforating the *os unguis*, then looked upon to be the best and speediest way of curing this *fistula*.

Surgeon

Surgeon *Petit* related the above unsuccessful history of this operation by way of proof, that no method can so effectually cure a *fistula lachrymalis* as by opening the nasal duct after his manner, and keeping it open with the *bougie*.

Surgeon *Petit* pursuing the same subject in 1743, 44, 45, has some useful observations, relating to the causes of those weeping eyes, we so often find after the small-pox and measles; it was thought better to throw all together to avoid as much as possible repeating what has been before said on the subject.

All those who have wrote on the small-pox and measles advise to purge often after these disorders, especially if they have a weeping, or what they call weak eyes, and even to repeat those purges, while the eyes appear glassy, without offering any reason for such practice. They further recommend to use astringent eye-waters, to brace up as they imagined the relaxed lachrymal ducts, whence said weeping is supposed to proceed; the ill-success too often attending this practice doth evidently demonstrate how little those authors knew of the real cause of this weeping. Surgeon *Petit* has set this matter in a very clear light, and satisfactorily accounts how this weeping becomes incurable thro' neglect, and how to prevent or even remove it, if taken in hand early, before it becomes irremediable;

where at the same time he demonstrably proves, that astringents must in the general, rather injure than relieve this weeping after the small-pox and measles.

How glaring then must our ignorance appear in ordering astringents to parts, already totally closed up, and much more to expect to remove by such helps a disorder already become irremediable thro' neglect?

Surgeon *Petit* instructs us, 1st, How to distinguish such weeping eyes as are curable from those that are beyond the power of art, and at the same time to prevent those weeping eyes.

He tells us, he has frequently observed some pocky pustules in the very *puncta lachrymalia*, which during the inflammatory state they necessarily must go thro' to ripen them, become inflamed, suppurate after so as intirely to close up those *puncta*; the same may and often does happen to the nasal duct, which in like manner is closed up; in either case, a weeping eye is a necessary consequence, irremediable when the *puncta lachrymalia* are closed up; because no art can open them after; for as the tears are constantly secreted in the lachrymal gland, and cannot now be taken up by the *puncta lachrymalia*, this weeping must necessarily remain irremediable. When one of the *ductus ad nasum* is obstructed, the eye weeps in the same manner, and upon pressing the lachrymal sac, the tears are seen to
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reflow by one or other of the *puncta lachrymalia*; but this weeping is easily removed, by opening the nasal duct, as before directed.

As it is as much the Physicians business to prevent as it is to cure a present evil, so Surgeon *Petit* recommends in order to prevent a weeping eye after the small-pox, especially in the confluent kind, where the eyes remain longer closed, to direct early the cleansing the *fordes* that at this time covers those *puncta lachrymalia*; he recommends carefully to examine the state those *puncta* are in, and if they shou'd appear disposed to close, to inject some gentle deterfive liquor into them to prevent their closing; the nasal duct requires the same care, especially where it has been known, that some have had hard, dry crusts in their nose for upwards of 20 days after the pox had been decayed on their body, which prevented even the blowing their nose; in such a case, it is justly to be apprehended that the nasal duct is quite closed up, which if not speedily opened will soon occasion a weeping eye.

Surgeon *Petit* assures us, he has often met with those irremediable weeping eyes, owing to the *puncta lachrymalia's* being suffered totally to close up, which he thinks is generally owing to neglect in not deterging early their little ulcers.

Surgeon *Petit* is the first, that distinguished between the tumor of the lachrymal sac, and

that of the lachrymal duct. Why this last is so seldom attended to or observed is, because the patient from some uneasiness he feels, mechanically and often without his immediate attention puts up his finger, and presses upon this tumor, which is thereupon emptied, and that as often as it fills or becomes uneasy, and that for years with very little inconvenience; but whenever this tumor happens, it is easily distinguished from a tumor of the lachrymal sac, by its being more visible and thrust out; whereas that of the lachrymal sac lies deep, hid for the most part in the bony nasal canal, which prevents its dilating very readily; besides, this tumor of the lachrymal duct is sooner formed than that of the sac, whose texture is firmer than that of the lachrymal duct: again, when a tumor is formed in the lachrymal sac, the eye-lids are never affected, but when it proceeds from a dilatation or obstruction of the lachrymal duct, the eye-lids at their union in the great *canthus* are always swelled and often painful and inflamed; but neither the one nor the other ever happens without an obstruction of the nasal duct; for as the tears by the natural motion of the eyes are continually propelled thro' the lachrymal duct to the lachrymal sac, this not being able to discharge itself into the nose, must at length give way, *i. e.* be dilated; the lachrymal duct wou'd be equally dilated, if the *puncta lachrymalia*

malia had not been open, thro' which the patient often and without thought evacuates what matter is there contained, as was before observed.

Surgeon *Petit* met with one of those tumors of the lachrymal duct in a boy of 5 or 6 years old, who for 7 or 8 months after he had the small-pox was afflicted with erysipelatous swellings of his eye-lids; he was obliged to discuss the swelling before he cou'd examine into the state the eye was in; he then found several little ulcers as big as pins heads on the *conjunctiva*; as the mother wou'd not then consent to have the operation performed, he heard no more of him for 2 years after. This boy had often returns of an inflammation during that time; when she brought him a second time, the inflammation was now extended to the lower eye-lid and adjacent parts; the tumor had even suppurated, and yet it was not much lessened thereby; and here again the mother opposed the operation, 'till this tumor of the under eye-lid became fistulous; the weeping from that time ceased; the tears were now discharged by the fistulous ulcer in the cheek; this determined the mother to suffer the operation to be performed. Surgeon *Petit* examined with his probe this fistulous ulcer, where to his surprize he found, that by pressing the lachrymal sac, the matter was discharged thro' the fistulous ulcer in the cheek, owing, no doubt,

doubt, to an erosion of the common lachrymal duct in the *sinus* of this ulcer.

Surgeon *Petit* observes here that had he first laid open this fistulous ulcer, as the practice is, he might cure the ulcer it is true, but he wou'd necessarily leave a very great blemish behind, and a weeping eye inevitably; but he more judiciously turned his views to the removal of the primitive cause, the obstruction of the nasal duct; accordingly he made his incision in the lachrymal sac, and introduced his *bougie*, as was before directed.

All the time this boy was under cure, the tears came out at the *puncta lachrymalia*, owing to the pressure from the bandage, and as the tears had taken this course, the fistulous ulcer of the cheek dried up of itself in 8 or 10 days after the operation, which manifestly shewed he judged right, in not beginning with the cure of it, as probably another wou'd; and for that reason wou'd miscarry in the end; for by destroying the lachrymal duct, he wou'd inevitably leave a weeping eye for ever after, and by laying open the under eye-lid, he must in spite of all his skill leave a great blemish there; about the 20th day he took out his *bougie*; he had the satisfaction to see the tears had followed their natural channel, and that the boy was perfectly cured, without any blemish remaining.

It is here remarkable, that by opening the
nasal

nasal duct, and establishing the natural course of the tears, the fistulous ulcer of the cheek, thro' which the tears came before, healed of itself. Common fistulous ulcers are not observed to do so; these must be first laid open, and all their *sinus's* deterged, whereas fistulous ulcers of both the lachrymal and urinary passages may be consolidated, by restoring the natural passages, of the tears in the one, of the urine in the other, without opening the *sinus's* of said ulcers, as appears in the case before us; but without this, such ulcers wou'd soon break out again.

Surgeon *Petit* healed 2 such other fistulous ulcers of the inferior *punctum* without opening the *fistula*, by only removing the cause, the obstruction in the nasal duct; as soon as the tears followed their natural channel, the fistulous ulcers heal'd of themselves, by only applying for a few days compresses dipped in rose water.

*Inconveniencies attending an imprudent and long
Use of compressive Bandages, 1745.*

Surgeon *Petit* unwilling to leave any thing relative to the cure of a *fistula lachrymalis* unobserved, has given us this year his observations on the several kinds of compressive bandages, recommended by some surgical writers to depress the lachrymal tumor, which according to the true theory of this disorder, and
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the very direction of the lachrymal ducts, and their functions must be attended with very bad consequence ; especially when their use is long continued ; for in this last case, those compressive bandages will not only obliterate the cavity in the lachrymal sac, but likewise that of the lachrymal duct, which falls into it ; a weeping eye must be the irremediable consequence of such practice.

The first introduction of this kind of bandage into practice was owing to a mistaken notion that this lachrymal tumor proceeded from a relaxation of the lachrymal sac ; in such a case, it was natural enough to think that by a gentle pressure on this *sac*, its coats wou'd become of a more firm texture, the tumor of course might gradually disappear ; but had those writers considered, that by far the greatest part of this lachrymal sac is lodged in a bony canal, which will never suffer it to dilate much, they cou'd expect but little benefit from their compressive bandage, which at most cou'd press but on the very verge of this bony canal ; besides, had they duly attended to their own directions upon applying it, *viz.* to empty the lachrymal sac by pressing on it with the finger, before this compressive bandage was applied, and had taken notice that the humor contained in the said *sac*, come out at the *puncta lachrymalia*, they necessarily must have seen, that the application of
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of this bandage cou'd not be attended with any desirable effect ; nor indeed does it appear its use was founded upon any rational system.

They recommend to empty the *sac* before it is applied ; they plainly saw the tears were emptied by the *puncta lachrymalia* ; what else cou'd they expect from their bandage in this case, but to intercept the afflux of the tears to the lachrymal sac, while they kept it on ? they cou'd not but see if the bandage was any way tight, or pressed hard on the tumor, a continual weeping was the first consequence of such pressure, and very frequently an inflammation was another consequence of the same pressure, which obliged them to take off this bandage to allay it ; whereas had they never applied any such bandage, the patient might empty this tumor, by only pressing it with his finger 3 or 4 times a day, and not be exposed in the end to have a weeping eye all his life.

But had the contrivers of this bandage considered that this tumor of the lachrymal sac proceeded from an obstruction in the nasal duct, they surely shou'd rather attempt to open this duct, and in that case, it shou'd seem more rational to stop the reflux of the humor in this tumor by the *puncta lachrymalia*, that by the pressure on the lachrymal sac, it may force the impediment in the nasal duct ; but this cou'd never be their view, otherwise they wou'd not recommend to empty the sac before

the application of the bandage ; they cou'd not but know, that the fuller the tumor was, the greater its efforts against the impediment in nasal duct must necessarily be, especially as it is here supposed, they had taken care to compress the *puncta*, and lachrymal duct, otherwise the pressure on the lachrymal tumor wou'd propel the contained humor as well to the one, as to the other, to the lachrymal as well as to the nasal duct.

It is evident they never had any such intention, to force the impediment in the nasal duct in view ; all they aimed at was to depress the tumor ; they looked upon the cure to be completed when the tumor did not return in a year or 2 or 3 after the bandage had been laid aside ; the weeping that still remained gave them very little concern, which however was rendered still more grievous, by obliterating the cavity of the lachrymal sac ; for while this *sac* was open, the tears had free access to it, the greatest inconvenience the patient cou'd then suffer was to be obliged to empty it 3 or 4 times a day ; this wou'd prevent a weeping-eye, which is now become continual ; for as the lachrymal duct has now no place to convey the tears to, these of course must continually trickle down the cheek, the remainder of the patients life ; a very disagreeable case, especially where it might be prevented.

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From what has now been said, concerning these compressive bandages, it is sufficiently obvious, they never can be of use, but must rather be hurtful, while the nasal duct remains obstructed, but after the nasal duct is opened, shou'd the lachrymal sac remain dilated, which scarce ever happens, when the operation is judiciously performed, then a compressive bandage may be of use; and even in this case, care shou'd be taken, not to let it press harder on the *sac* than what is just necessary; otherwise by intercepting the afflux of the tears by the lachrymal duct, it wou'd occasion what it was intended to remove, a weeping eye.

Figure 4. of plate 5. exhibits this compressive bandage *in situ*, fig. 3. the parts it is composed of.

A considerable Nerve sent from the Abdomen to the Heart, 1734.

M. *Hanauld* discovered before this nerve, but he demonstrated it this year before the Academy; it set off from *Vieussens plexus gangliiformis semilunaris*, just near the *plexus mesentericus major*, ascended into the *thorax*, and was inserted into the right auricle and distributed at the *basis* of the heart; as the nerves are the instruments of motion, and as the sympathy between the distant parts of the body is in many instances very strong, so the sympathy

thetic motions between the *viscera* of the abdomen and the heart are now easily understood.

The Lacteal Veins discover'd. Ibid.

M. *Hanault* discovered those lacteal veins in the lungs; he first traced them in 1733, and this year followed them from their origin in the lungs to their insertion into the *thoracic duct* in the presence of the Academy. These have been discovered in brutes long before.

Lymphatic Arteries discovered, 1741.

What M. *Hanault* did with regard to the lymphatic veins, trace them from their origin, M. *Ferrein* did this year demonstrate the lymphatic arteries. Anatomists have long since acknowledged the necessity of admitting such lymphatic arteries; but said they, they are so infinitely small, and their contents so transparent, they escape the eye, even armed with the best glasses.

Avicenna the most eminent of the *Arabian* Physicians, said the tendons, ligaments and several other parts were nourished by a whitish juice, which the ancients called *humor innotinatus*, and the moderns *lymph*; this liquor according to *Avicenna* is only blood deprived of its color; several of the moderns were of the same opinion, founding theirs upon what happens the *cornea* in an inflammation;

on ; in a natural state its vessels are full of a white pellucid liquor, in a morbid state they admit globules of blood. *Leuwenhock*, *Ruyfch*, and others agree with *Avicenna*, that the blood changes its color upon entering the capillary arteries. *Boerhaave** conjectures, that every kind of fluid secreted from the blood has its peculiar artery ; *Helvetius* in his animal œconomy admits them, and says they are the seat of all inflammations ; Messrs. *Vieussens* proposes to boil the parts, and *Hovius* pretends he has a chymical injection, capable of discovering them ; thus much is certain, that neither *Ruyfch*, *du Verney*, *Morgagni*, *Winslow*, *Heister*, nor any other modern anatomist has hitherto been able to demonstrate the lymphatic arteries. *Boerhaave* from the necessity of the thing admits them † ; but adds, *they are so infinitely small, that they escape the eye* ; and as to inflammations and injections, they give them the appearance of sanguine arteries.

Where M. *Ferrein* first discovered those arteries was in the womb of a woman, who died while her *menfes* were flowing ; he there observed that the inner surface of the womb, which is naturally composed of an assemblage of transparent arteries and veins, was now filled with blood, which was owing to the *menfes* then flowing ; consequently these vessels in their natural state must be those lymphatic arteries

* *Boerb.* Just. SS. 246.

† *Ibid.*

teries he was in search off; for if this was not case, the inner surface of the womb wou'd at all times have its vessels turgid with blood, as they were in this woman. Tho' he cou'd not demonstrate those lymphatic arteries in this state of the womb, yet it served to excite his further inquiry, the importance of the discovery merited it; for undoubtedly the most surprizing and hidden changes that happen every day in the human body are brought about in the extremities of the capillary arteries; this is a point universally agreed upon; it was therefore of no small importance to discover whether there were not more capillary arteries than of one kind; whether the lymph had not its lymphatic capillary arteries, as well as the blood had its capillary sanguine arteries.

The discovery of the lymphatic arteries is most certainly one of the greatest made in either this or the last century, considering the vast light it must let into every part of the animal œconomy; animated with this view he tells us, he had dissected numbers of bodies for that purpose; that upon dissecting the eye of a dog, he discovered in the celular membrane under the *conjunctiva* a considerable number of transparent fine, but distinct vessels, full of a pellucid liquor, and free from any knots or valves; he after discovered the same kind of vessels in the eye of a young man of about 15 years old, disposed in the same manner,

manner, but not so distinct as in the dog ; he likewise discovered them in the womb of a young woman of 25 intirely to his own satisfaction, but as this was not sufficient to convince others, and reflecting that such transparent vessels are better and to more advantage seen in a dark or black ground than in a transparent one, he chose the eye of a child 6 years old ; and having separated the anterior part of the *sclerotis* and *cornea*, the better to expose to view the *choroides* and *uvea*, with a *lens* of 5 lines *focus*, he cou'd see a multitude of sanguine vessels in the *choroides*, and not one in the *uvea*, but in return, he beheld with inexpressible joy a greater multitude of infinitely fine and transparent vessels, so distinct, and at the same time so regularly disposed, that it is not possible to convey an idea of them, much less to be able to describe them. He has often since found the same lymphatic arteries, and discovered their origin, distributions, &c. for by injecting the inner carotid artery, the injection fills a part of these lymphatic arteries of the *uvea*, and gives them the same appearance as it does to the sanguine arteries ; tho' this injection does not demonstrate their lymphatic origin, it however shews they arise from the sanguine arteries. M. Ferrein had the good fortune to force his injections into the lymphatic veins of the *uvea*, which he evidently saw discharge themselves into the sanguine veins

veins of the *choroides*; he tells us he found very great difficulty to inject the lymphatic veins of the eye, nor is it easy to fill the lymphatic arteries, and those that are filled with the injection, are by far the fewer in number.

M. *Ferrein* conjectures that they have been often before observed, without knowing it; the notion of fibres found in the *uvea* is not unlike it *. The sanguine vessels *Ruyfch* discovered in the *uvea* were undoubtedly those same lymphatic arteries, filled, or rather disguised by his injections, of whose origin he was quite ignorant †; we may say the same of those *Hovius* pretended to see in the *uvea* of a sheep; it was after this manner that some great anatomists fancied they had seen the lacteal veins, the thoracic duct, *Bartholin's* lymphatic vessels, and even pretended to describe them, long before they had been discovered.

Now that we have discovered lymphatic arteries it is easy to understand their distribution and use; the blood which consist of a transparent concrefible lymph and a red globular fluid, circulates promiscuously in the arteries and their branches, 'till they come to the capillary sanguine arteries; here the lymphatic arteries set off, and carry and distribute the lymph, those nutritious parts, to repair the constant wastes of an animal body, while the
globular

* Vide Eustach. tab. 40. fig. 8, 9. item *Boerb.* Inst. SS. 520.

† *Ruyfch.* Epist. probl. 13. fig. 17, 18.

globular part pursues the last capillary sanguine arteries, together with what of the lymph was necessary for its vehicle, 'till the evanescent sanguine arteries commence the origin of the sanguine reflux veins; the lymphatic arteries after they have performed their office, distributed to the several parts such nourishment as they wanted, like the sanguine arteries, their evanescent capillary branches end in the reflux lymphatic veins, which by their union form larger veins; these lymphatic veins discharge their lymph into the neighbouring sanguine veins, where the lymph is mixed again with the blood, for the several uses of the animal œconomy.

Tho' these lymphatic arteries and veins are so extremely fine as to escape the eye, yet there can remain no rational doubt, but they observe the same order in their distribution as the sanguine arteries and their corresponding veins are known to do.

It is from those lymphatic arteries, that all the secretory vessels of the body arise, such as the *salival, gastric, pancreatic, renal, &c.* all which secrete their respective liquors from the lymph, and not from the blood.

We know by experience that the blood enters some times those lymphatic arteries; the inflammation of the *cornea* evinces it. *M. Ferriën* found them upon dissecting the *uvea* of a man's eye, which was inflamed both exte-

riorly and interiorly ; but he does not think an hundred part of the vessels of the *uvea* were inflamed ; this blood thus received into the lymphatic arteries is taken up by the corresponding lymphatic veins, or cast off upon the secretory ducts that arise from those lymphatic arteries. Instances of those sanguine excretions are seen in those bloody sweats, in the *menfes* of women, &c. which are known to proceed from the lymphatic arteries now distended with blood.

A mortal Phrensy occasioned by a Dilatation of the Ventricles of the Brain, 1735.

M. *Lieutaud*, professor of Physic in the university of *Aix in Provence*, informed the Academy, that upon opening the head of a young woman of 18, who died frantic, occasioned by a violent head-ach, he found the brain in a natural state, save that it was rather soft ; but the ventricles were prodigiously dilated, and contained at the least 2 pounds of a clear liquor.

An Aneurism of the Heart. Ibid.

M. *de la Faye* related the case of a man, who to his 34th year enjoyed tolerable good health, but about that time became subject to hypochondriac fits, which held him for 18 years after, tho' not violently : the two last years of his life he was afflicted with palpitations,

tions, which never quitted him 'till he died; if one put his hand on his left side, he cou'd sensibly perceive the heart to raise itself considerably.

The last days of his life his legs swelled; he became after dropical. Upon opening him, the *thorax* and abdomen were found full of water; the lungs were found, but collapsed; the *epiploon* was quite dissolved; the intestines, liver and spleen were found; the *pancreas* was both large, hard and scirrhus; the vessels of the stomach were large, and distended with blood; the heart weighed upwards of 2 pounds; it measured at the base from 15 to 16 inches; both ventricles were full of coagulated blood; the right ventricle was not much larger than usual; but the left, which is always less than the right, was here so dilated as to be able to contain an *English* pint of liquor, and yet it preserved its natural thickness; the aorta near the heart was ossified; all the other vessels about the heart were in their natural state.

M. *de la Faye* considers this extraordinary dilatation of the left ventricle of the heart as an *aneurism* of this ventricle. This case seems to confirm what Messrs. *Lancisi* and *Morand* have said, concerning this disorder of the heart*.

A Man

* We find a similar case in the *Phil. Trans. Abrid. Vol. IV.*
G 2 Pt.

A Man lived 9 Days after he was run thro' the Heart, 1735.

M. *Morand* produced before the Academy the heart of a soldier, who died of a thrust of a sword he received under his left breast ; this thrust penetrated the *pleura*, between the 5th and the 6th rib, the *pericardium*, the *apex* of the heart, the opposite side of the *pericardium*, *diaphragm*, and an inch deep into the liver ; there was some blood found in the *pericardium*, and a small plug of the same in the wound in the heart, and about 3 half pints of a purulent *serum* in each cavity of the *thorax*.

What is the most remarkable here is, that this man was 3 days without any considerable symptom ; his fever appeared the 4th day only, accompanied with a great difficulty of breathing, and died the ninth.

A Si-

Pt. 2. p. 42. of a man opened in St. *Bartholomew's* hospital that died of a palpitation of the heart ; its violent beating and prodigious subsultory motion for some months before he died, was not only easily felt by laying the hand on the region of the heart, but visible to the naked eye by the rising and falling of the bed-cloths ; *Fernelius* in his *Pathologiæ*, l. 5. c. 12. relates a very uncommon and surprizing case of the kind, where the violent concussions of the heart were so strong and violent as not only to laxate, but even to break some of the adjoining ribs. *Sylvius de le Boe* in his account of this disease, has a parallel observation. *Kerkringius, Obs.* 16. gives an account of a woman he opened, whose heart was of a prodigious bigness, and to mention no more, *Dionis* at the end of his anatomy relates a very uncommon case, wherein the right auricle of the heart was prodigiously dilated, even to the bigness of the head of a new-born child.

A similar Case, 1744.

M. de l'Ecluse Surgeon at Chaulny writes, that a young man of 22 received a thrust of a sword under his left breast; he was dressed with due care, and with so great appearance of success; that on the 5th and 6th days, even the patient thought all was happily well over with him; however, about the end of the 6th day, he all of a sudden grew worse, and died the next. Upon opening him after, both the *pericardium*, and right ventricle of the heart near its *apex* were found wounded; the heart was full of coagulated blood; this man like the former lived a considerable time with a wounded heart.

A Stone formed about an Ivory Bodkin in the Bladder, 1735.

M. Zampollo Surgeon at Turin informed M. Morand, that two young women in low life who lay together, one of them wou'd wantonly act the part of a man, and for this purpose took an ivory bodkin, as long as one's finger, which in the amorous act, slipped into the bladder of the other, who was about 20; this poor girl soon after complained of a stoppage in her water, which now came by drops only, and with pain; shame prevented her discovering the cause of her complaints for 5 months; but growing very thin, and being besides feverish,

verish, she discovered her misfortune to a Surgeon, who extracted the bodkin, and some of the stony concretion that was about it, which made him think he had performed a compleat cure; but the poor girl was still in pain. M. *Zampollo* being called in, and examining the parts, he discovered that the bladder next the *vagina* was ulcerated; he likewise found there was a stone in the bladder; to appease the exquisite pain the poor creature was in, he advised to take a good deal of oil, and in a few days after, the stone presented itself at the mouth of the *vagina*, after it had passed thro' the ulcer in the bladder, from whence it was extracted with the finger, without the help of any instrument; the girl recovered, cou'd walk and work, but she has an incontinence of urine, and sometimes a slight inflammation of those parts.

A similar Case, 1754.

A young woman in the territory of *Padua*, about 19 years old, to remove some uneasiness she felt in the *pudenda*; took a long iron needle, which she thrust up into her body; she soon after falling asleep, and leaving the needle in the *pudenda*, found upon awaking that it had slipped into her bladder; shame now prevented her discovering the true cause of those severe pains she soon after began to feel and complain off, till becoming so intolerable as not to be

be born any longer, she then confessed the fact. Upon being examined, the needle was felt to lie cross-ways in the bladder, crufted over with a stony matter. As this needle lay cross-ways, it cou'd not be extracted any other way but by the *high apparatus* ; accordingly Dr. *Stella* of *Venice* performed the operation, and extracted both it and its stony cruft together ; tho' no accident attended the operation, yet the patient died in a few days after. Her death was rather owing to her being reduced very low during the 8 months she labored under her illness, most of which time she was harrassed with a hectic fever.

Abbe Nolet produced this needle with the stony cruft round it before the Academy, which he received, together with the above account of the case from Dr. *Stella*.

R E M A R K.

Anatomists have long since experienced, that whatever substance they put into the bladder of a dog, for example, when they came some time after to open this dog's bladder, they always found it crufted over with a calculous or stony matter ; but no substance seems to be so often found surrounded in this manner as a *bodkin* ; for besides the foregoing cases, and many more to be found in Phisical Writers, you can scarce attend a lecture in either Anatomy or Surgery in the universities abroad, but the demonstrator will surely produce you a *bodkin*, crufted over with a stony matter ; which he, or some of his correspondents had extracted out of the bladder of some female.

But of all the *bodkins* crufted over in this manner, what was taken from *Dorcas Blake* in *Dublin* in 1694, is in my opinion

opinion the most extraordinary. *Dorcas Blake* a full bodied sanguine maid about 20 years old, endeavouring to provoke a vomiting by thrusting her finger into her throat, which not answering her desire, she drew an *ivory bodkin* 4 inches long out of her hair, and thrust the *small end* forward into her throat, which upon her heaving, slipt out of her fingers, and passed into her stomach. She found no immediate inconvenience, till the next day about noon, when she felt a sharp pricking pain in the right side below the navel, which towards night settled in her right groin. *Poor thing began now to be frightened*, was restless; a midwife was sent for, who examined her, and said she felt the *bodkin*, but thought it was in a gut; here a Surgeon was called, who searched for this *bodkin* in the *anus*, but cou'd not find it. He then put his finger into the *vagina*, and there he felt it (*and where else cou'd he feel it.*)

We are further told, that the Surgeon attempted to extract this *bodkin* by dilating the *urethra*, but not succeeding, he was obliged to extract it by the *high apparatus*, which he did in the presence of 3 eminent Physicians, that day 9 weeks from the time she swallowed it. There was but half of the *bodkin* in the bladder, the other with the *smaller end* was without it, with its point resting on the *ischium*. *Phil. Trans. Abrid. Vol. 3d. p. 162. See also the fig. ibid.*

This case in many respects appears so very singular, that I must beg the reader's patience to make a few remarks on it.

In the first place, it appears to me very evident, that *Dorcas Blake* never swallowed the *bodkin*, that was extracted out of her bladder; for had this *bodkin* fallen into the stomach, it wou'd remain there, till extracted by incision, as similar cases and as the idiot's case of *Ostend* clearly shews, * for that such a sharp instrument, as a *bodkin* 4 inches long, cou'd pass the *pylorus*, fit and adapt itself to the several inflections of the intestines, and at last in about 36 hours penetrate into the bladder, that is without the *pelvis*, must I apprehend surpass all credibility; the bare inspection of this *bodkin*, and its situation in the bladder must convince every one, who will seriously consider the case, that it cou'd never come into the bladder

* *Phil. Trans. abrid. Vol. 4. pt. 2. p. 97.*

bladder from the *pelvis* ; the thicker end was found in the bladder with the point resting on the *ischium* ; surely the very reverse shou'd happen ; the point shou'd be found in the bladder, crusted over with the stony matter, and its thicker end in the *pelvis*.

But the truth of this matter I apprehend is this ; *Dorcas Blake*, a full bodied sanguine maid of 20, made use of her *bodkin* for the same lascivious practices, that many of her sex both before and since have done, which in the amorous act she happened to thrust so far, as to pass beyond the bottom of the bladder, whereby it irrecoverably slipt out of her fingers ; her sending for a midwife first doth evidently betray her guilt, for if she had not been conscious of her introducing this *bodkin* into the *pudenda*, what assistance cou'd she expect from a midwife ? young as she was, she knew it was a midwife's province to extract bodies from those parts ; but when she found the midwife cou'd not recover or extract her *bodkin*, and that a Surgeon must be called in, to hide her lasciviousness, and to give some color to the *bodkin's* being found in the bladder, the story was artfully contrived, that truly it had slipt through her fingers, as she exciting a vomiting with it, because her friends wou'd not let her take a puke for a hoarsness she had ; this second part of the story is as lame as the first ; who cou'd tell her that by taking a vomit, she wou'd get rid of her hoarsness ? our patients often complain of a hoarsness after a vomit.

In the collection of similar cases given by *M. Morand*, it appears that the things found in the bladder were always thrust into it by the persons themselves ; he relates a case from *Morgagni*, where a man thrust a bodkin into his bladder, *Morgagni* adds, I have without being surprized found the same thing in two women, but never before in a man, and had not the man confessed that he had thrust this bodkin in the *urethra*, I cou'd not believe it possible to introduce such a bodkin by the *urethra* into the bladder ; two others thrust kidney-banes, and another an ear of corn into this *urethra*, which were extracted after, encrusted with a stony-matter. *Mem. de Chirurg. tom. 3. p. 607 & seq.*

*An Abscess of the Sinus's of the Head mistaken
for one of the Lungs, 1735.*

This man complained of a head-ach, and fever, he had besides a cough, and what he spit up was matter, which induced those who saw him to conclude it came from his lungs; he died in a short time after; M. *Lieutaud* upon opening the *thorax* was a good deal surprized to find the lungs were sound; the seat of the disorder was in the sphenoidal, frontal and maxillary *sinus's*, which were found as full of pus as they cou'd hold.

The Foramen Ovale open in a Man of 50. Ibid.

M. *Hunauld* produced this heart before the Academy, wherein the valve was adherent to all its circumference, with an aperture in its middle of 3 lines in diameter; the aperture did not appear to be owing to a rupture or supuration, as was visible by the thinness of its edges; tho' it be necessary for the *fœtus* while in the womb to have this *foramen* open, yet it appears by this case that it is not absolutely necessary it shou'd be closed up in the adult.

M. *Aubert* Physician at *Brest* sent in 1740, M. *du Hamel* an account of a similar case, this *foramen* open in a man of 30; probably were it more the custom to open bodies, many more instances of the kind wou'd be found; M. *Hunauld* produced likewise the heart of a woman

man of about 30, whose left auricle was greatly distended, owing to its valves being almost joined together, leaving but a very small aperture for the blood to pass; it was this that obliged this auricle to distend itself; these valves were ossified in many points: M. Hunauld met with the like union of the valves of the right auricle in a girl of 13 or 14 years of age.

A most extraordinary scalping happily cured,
1739.

A carpenter at *Port de l' Orient* of about 30, being on a scaffold, the engine employed to raise the stones, &c. over-set; the cap of the engine took him by the fore part of the head, and fairly took off the hairy-scalp and *pericranium* of half the coronal and parietal bones, and almost the whole of the occipital bone, all which were found in the man's hat; he received besides a wound on the right side of the coronal bone, which tore the upper eye-lid and fractured the bone at the same time; he had another wound at the root of the nose, which fractured the bone; these two bones only were fractured; there was no appearance of any extravasated humor on the brain; this accident happened the 15th of *October*, 1738.

M. du Fay Physician at *Port l' Orient* had at first a very indifferent opinion of this poor man's case; he however had him blooded in

the foot, and put him under a very severe regimen.

The patient was all the time without a fever; but he was very sensibly affected by the changes of the weather, so as sometimes to become restless at nights, and lose his appetite. About the 9th day the parts began to suppurate; in some days after the *pericranium* threw off some sloughs; at each dressings a fine lymph was observed to spread and cover all the parts that were bare; while the wound in the nose kept open, the discharge was both pituitous and bloody; but in about 6 weeks this healed; the discharge came after by the mouth.

The 14th of May, 1739, all the wounds were cicatrized, the hairy scalp was intirely regenerated, and what is here very extraordinary, this regeneration began at the *occiput*, and advanced like a goose's foot, extending gradually to cover the parietal and coronal bones.

Bad consequence attending certain Attitudes of the Body, and some kinds of Dress, 1740, and 1741.

Every days experience informs us how many inconveniencies and infirmities we bring on ourselves by affected attitudes, and as often by too little care of the proper attitude of our bodies; when we come to seek for help, we do not only receive no benefit, but often become worse,

worse, by reason the original cause of those complaints is generally overlooked, a depraved attitude of the body.

M. *Winslow* met with a very extraordinary instance of this kind in a lady, who for many years was both tall and straight ; but giving herself up to a sedentary life, and neglecting at the same time to dress herself properly, and sitting sometimes quite bent, either forward or inclined to one side or the other, in a few months after she found very great difficulty to stand upright ; after this she sensibly perceived some inequalities in the lower part of the *spine*, which soon after became in shape like the letter S, by which means she lost near one fourth of her stature ; she remained so crooked that the false ribs reached almost to the *ossa ilia* ; her bowels were necessarily much compressed ; her stomach was so affected, that whatever she swallowed seemed to her to fall into two distinct cavities.

M. *Winslow* being called to the assistance of some students, discovered that their complaints proceeded from the unnatural attitude of their bodies, they being obliged to write on their knees in the public colleges ; this forced attitude, by compressing their bowels, was the real cause of all their ailments, which being intirely overlooked by other Physicians, what they ordered for them cou'd never have the desired effect ; but upon recommending to dis-
continue

tinue this forced attitude, some recover'd without any other help, and others by taking those things that before were observed to have no effect.

He often observed other students sorely afflicted with head-achs, sore-eyes and throats, which wou'd not give way to either bleeding, or the best adapted medicines ; but finding upon inquiry that those students had acquired a habit of lying low, with their heads beyond the pillow, by recommending to change this depraved manner of lying, they soon got rid of their complaints.

The same evils often proceed from too tight neck and rift-bands, cravats, &c. which are very often the cause of head-achs, sore-throats, sore-eyes, giddiness, *vertigos*, bleedings of the nose, &c. which by overlooking the original cause, eluded the force of all the medicines employed ; but M. *Winslow* by only recommending to slacken those over-tight neck-bands, cravats, relieved some in an instant, by the blood's circulating freely after in both the jugulars.

M. *Cruger* Surgeon-general of *Denmark* and *Norway*, hearing M. *Winslow* repeat those observations in one of his anatomical lectures, as a confirmation of it, told him that a captain in the *Danish* service used to make all his men tie their stocks and garters very tight, by which means their faces looked ruddy and full, and the calfs of their legs both full and plump ;

Cruger

Cruger further observed that in some time after, all those men became highly scorbutic, and that many of them died in spite of all the means used for their relief, all owing to the tight ligatures, which gradually disposed all the juices of the body to putrefy.

M. Winslow thinks that the calves and lambs brought to market with their four feet closely tied together, might, by the stagnation of their blood from those tight ligatures, become less wholesome food than the flesh of others that were not brought to market without such ligatures.

The womens high heels, of late so much in fashion, have also their inconvenience; for when the heel is so high, the fore-part of the foot is more bent than it shou'd be; the consequence is that the posterior muscles that extend the foot are preternaturally shortened, while those that bend the foot are kept in a forced extended state; all such find great difficulty in going down any steep place; they also find difficulty to walk for any time on an even flat ground, being obliged to keep their knees more or less bent to prevent their hitting their heels against the ground; whereas such as wear low-heels are not subject to the like inconveniences, as we visibly see in all running-foot-men, chair-men, laboring-men, &c. those forced extensions of some muscles and unnatural contractions of others must sooner or later expose

expose the blood-veffels and nerves of thofe parts to feveral ailments, which by overlooking the original caufe, will be attributed to fome other, and what means are employed to remove them, if they do not injure, at leaft they become ufelefs and of no effect.

Worfe Inconvenience from stiff-Stays and tight Lacing, 1741.

How great foever the inconveniencies, infirmities, and other maladies arifing from the depraved attitudes of the body and high-heels may be, thofe arifing from too stiff-stays and too tight-lacing them are confiderably more hurtful, not only as they are more general, but becaufe people not knowing the danger are lefs on their guard; add to this the defire of fome, and the vanity of many, to acquire what is miftakenly called a genteel fhape, put thofe often on doing things prejudicial even to their health; among many others, stiff-stays is a principal one; for by too great a compreffion on the *thorax* and abdomen, the circulation of the blood is greatly difturbed, as are all the fecretions made from it; even the *embrio* in the womb is ftrangely affected by it, is either diftorted in its limbs, or ftifled in the womb by thefe over-tight lacings, which women too often practice, many perhaps to hide their fhame.

M. Winflow

M. *Winflow* observed that the lower ribs in women and maidens are more depressed, and bent inward than in men, that the children of either sex, or women that do not wear stays have no such conformation, consequently the former must be owing to stiff-stays.

By this unnatural compression from stiff-stays, the *epiploon*, the intestines, the mesentery, and particularly its glands and lacteal vessels and nerves, as also both ends of the *colon* and kidneys are greatly disorderly in their functions, being almost continually kept in a kind of a *press* between the bones of the back posteriorly and the hard *pike* of the stays anteriorly.

Undoubtedly this unnatural compression of the bowels is the principal cause of most of their chronic disorders; thus the jaundice is often owing to a compression of the liver; the disorders of the stomach, *nauseas*, vomitings, bad digestion to a like compression of the stomach and *duodenum*; the *chlorosis* to an obstruction of the lymphatic glands, the irregularity, excess and defect in the several secretions, in short the obstructions, hard scirrhous tumors and scirrhus's are generally owing to this constant and unnatural compression of the glands of the mesentery, *pancreas*, *epiploon*, liver, *ovaria*, and other parts in the abdomen, from stiff-stays and tight-lacings, and all this in compliance to a mistaken notion received among men, to acquire a genteel shape.

Those stiff-stays and tight-lacing do not only injure the contents of the abdomen, but often occasion many disorders of the heart and lungs, which are seldom properly attended to; for by the compression on the *aorta inferior*, and *plexus mesentericus*, the blood circulating in the large vessels about the heart, is in a good measure interrupted, whence *palpitations*, *aneurisms*, *polypus's*, *lyncope's*, &c. to the same cause are owing the violent beatings of the carotide arteries, the swellings of the glands about the neck, the periodical large discharges of *saliva*, and thick pituitous matter from the salival, and other glands, which often attend the obstruction of the mesenteric glands, all owing to stiff-stays and tight-lacing.

What has betrayed some and deceived others in this case is, that those ill-consequences from stiff-stays, do not become sensible immediately on the wearing them, and are not unfortunately perceived, 'till the disorders they occasion are almost irremediable, resembling herein the manner *corns* are produced; *corns* we know are not produced by the first pair of tight shoes we put on, the toes are first compressed a little; but upon continuing to wear tight shoes, the *corns* become by degrees to be painful, and are ever after rendered only less troublesome by wearing wider shoes; nearly in the same manner some disorders proceeding from stiff-stays and tight-lacing have been relieved

lieved by wearing wider and more limber stays.

M. *Winslow* experienced the truth of this in a young lady, who was greatly afflicted with a constant pain in the pit of her stomach, which nothing cou'd remove; but upon his recommending to her to exchange her stays for a soft waistcoat, and lace herself before, and in the place of a stomager to wear a soft double nap-kin, her complaints were soon after removed.

It is not the inward parts only that are injured by a long use of stiff-stays, &c. several external deformities are originally owing to them; by the too tight compression of these stays on the back, the *dorsalis major* and *pectoralis major* are greatly confined in their action; the over-tight compression on the inferior angle of the *scapula* necessarily thrusts up one shoulder higher than the other, and commonly the right before the left, and that very soon after one begins to wear those stays.

The great *Riolanus*, first Physician to Queen *Mary de Medicis*, takes notice of this deformity, which he tells us was so common, especially among the people of fashion, that scarce one in ten was exempt from it, but confesses he cou'd not tell to what cause to attribute it. M. *Winslow* upon examining several young ladies with high shoulders, and finding they had been always tight-laced since they first

began to wear stiff-stays, soon discovered that their high shoulder was owing to a compression on the inferior angle of their shoulder-blade, which necessarily thrust it up, and as the right hand is more employed, of course has more action, this by degrees surmounts the compression of the stays, and by that means receives more nourishment than the left, which on that account, as also from its lesser action, remains confined within its *bony vesture*.

That those high-shoulders proceed from stiff-stays is confirmed by every day's experience ; for the most effectual means to prevent and often even to remove this deformity is to let the child go without stays.

Besides, the pressure on the axillary glands, on their blood-vessels and nerves, so confine the motion of the arms as to be visibly perceived at every time those ladies too tight laced sit at table ; for when they want to reach for any thing the least distance from them, they are observed to incline their whole body, which is too often attributed more to affectation than to any real necessity ; but this is entirely owing to stiff-stays and too tight-lacing.

It has been objected that stays have often been applied to mend those deformities they are here charged to be the cause of.

We might here reply, that in all such cases as require stays, they are properly contrived, and adapted to strengthen a particular weak part ;

part; at the same time great care is taken that they do not injure the other parts or compress them too much.

It is further urged in their favor, that they assist to give children in their feeble, tender age, a straight, stable form, which they retain the remainder of their lives.

To refute the falsity of this notion, it is sufficient to view the lower class of the people in all countries, even among the greatest savages, who never wore stays nor any thing equivalent to stays, and yet their children are straight limbed, well formed, and have none of those deformities so common among the people of fashion, who put stays early on their children. This is a strong argument that those deformities so common now among us, such as a narrow, contracted chest, a depressed belly, a flat back, high and thrust out shoulders, which are thrown so far back as almost to dislocate the *claviculæ*, the ribs are so confined in their action that the 2d, 3d and 4th ribs only seem to have any free motion left, are all owing to stiff-stays and tight-lacing.

After all, it must be confessed stays have prescription in their favor; *Terence* in his comedies makes mention of them; and probably notwithstanding the many inconveniences attending their use, they will be continued to the end of time.

Of

Of the vitreous-Humor, 1741.

The organ of vision has in all ages exercised the genius of the ablest Anatomists, and with very good reason; the eye being the most curious in its structure, as well as the most useful organ in man. Among other parts that compose this organ, there are 3 humors, the *aqueous*, the *crystalline*, and the vitreous; they all conspire by their transparency to permit the rays of light to pass to the *retina* where the images of all external objects are represented.

M. *Demours* considers here the vitreous humor only; he, says *Riolanus*, is the first who said that the vitreous humor was contained in particular cells, formed by the membrane that envelopes it; tho' this was purely conjectural, yet it happens to be right. *Hovius* wou'd have the vitreous humor to be a congeries of different orders of vessels, wonderful indeed to behold; *Boerhave* seems to be of the same opinion. *Hovius* pretended to have discovered these vessels by the means of a chemical injection; but he neither tells us what this injection consisted of, or how he came to inject those vessels; he therefore has not met with the approbation of others, no more than *Waldschmidt*, who pretended the cells of the vitreous humor were *parallelepipeds*. *Morgagni* conjectures this humor is contained in its mem-

membrane, as the juice of the grape is contained in a grain of the seed ; he confesses this is purely conjectural, and that no body has hitherto been able to demonstrate them. *M. Winslow* says, that this cellular structure may be discovered by macerating an eye in an acid liquor ; but does not specify the acid.

M. Demours macerated an eye in all the acid liquors known, but cou'd not discover this structure ; all that then happens is, the eye loses of its transparency and becomes of a firmer texture.

M. Morgagni macerated an eye in citron juice ; but cou'd discover nothing. *M. Demours* has been more successful ; he not only discovered those cells, but also the membrane that forms them ; for this purpose, he took a frozen ox's eye, which he opened ; the vitreous humor appeared congealed into little pieces of ice, which are easily separated from each other, and with the point of a couching needle one may raise some part of a membrane extremely transparent, and of a closer texture than one cou'd hardly believe.

M. Demours recommends to those who wou'd repeat the experiment, to expose the frozen eye for an hour to a temperate air, or not to open it but upon a thaw ; otherwise the parcels of ice the vitreous humor is now converted into, will not readily separate from each other,

other, as they are then closely pressed one against another.

M. *Demours* was not contented to prove the existence of those cells the vitreous humor is contained in, but he has likewise demonstrated that those cells communicate with each other; he took the eye of an ox, and carefully separating the vitreous humor enveloped in the *retina* and *choroides*, he opened all its membranes, the *retina*, *choroides*, and vitreous membrane in one place; he macerated this vitreous humor in water, acidulated with a few drops of the oil of vitriol for 24 hours, upon weighing it after, he found it had lost near one sixth of its whole weight, which is evident cou'd not happen thro' so small an aperture as he had made in its envelopes, if the cells did not communicate with each other.

But to be intirely certain of this matter, M. *Demours* macerated the vitreous humor of another ox's eye in common water without opening any of its envelopes, and weighing it after, he found it had not lost one grain of its weight; this clearly evinces that the diminution in the weight of the vitreous humor in the former experiment, was owing to the cells communicating with each other.

M. *Demours* always made use of the eyes of animals in his experiments, preferable to human eyes; these are too much wasted before they can be had to make any experiments on them.

M. De-

M. *Demours* further observes that the vitreous humor becomes less transparent upon putting it into an acid liquor, and that it was much less so in the anterior part, and in the center of the socket of the crystalline than in any other part; this is owing to the cells of the vitreous humor's being much less in the anterior part and in the center of the socket of the crystalline than any where else; the membrane that forms these cells being the more multiplied, it reflects the more rays of light, this membrane must therefore appear in that place the more opake.

A very uncommon Relaxation of the Muscles of the Head and Arms, 1741.

M. *Martin* of *Lausanne* informed the Academy, that a boy about 10 years old after a fall he got, which left no exterior mark of any injury he had received, has ever since his hands, arms, and certain muscles of the head without any action, in so much that his head falls one time upon his back, at another time it lies upon his chest, but by a certain jerk of his body, he can fix it straight; it however falls again upon the least inclination of his body to either side; in every thing else he is very well, and has the sense of feeling as perfect in those parts as ever.

*Some extraordinary inward Conformation of the
Parts of the Body, 1741.*

M. *Morgagni* informed the Academy of some very singular inward confirmations he met with ; in one body he found two *ureters* to one kidney, in another two kidneys so united as to make but one ; in a 3d, 13 ribs of a side, the last rib was articulated with the first *vertebra* of the loins *, in another he found the right *iliac* vein had formed a kind of *isle*, and in another he found 4 valves in the place of 3 in the pulmonary artery. It is pretty remarkable that all these variations were found in 4 out of 5 bodies he dissected in the year 1740.

Of Children Tongue-tied, 1752.

This disorder of children newly born of being

* *Galen* writes that it is very rare to meet with 13 ribs, and more so to find but 11 of a side ; and herein *Columbus* agrees, that he never met with 11 ribs but once in his life ; but that he found 25 and 26 ribs in some bodies. *Riolanus* says, he had found in some subjects 11, and in others 13 ribs of a side. *Bartholinus* says he found 11 ribs on one side and 12 on the other side ; *Diamerbroeck* dissecting a *French* soldier in 1642, found but 22 ribs, but *Fallopins* and *Picolmini* found each two subjects, that had 26 ribs each, and *Bohnus* met once the same number of ribs in a man ; *Ruyssch* has but one instance of 13 ribs of a side, in the *acta medicor. Berolin*, there is mention made of a woman dissected in 1720, who had 13 ribs of a side ; M. *Hunauld* attributes this variation in the number of ribs to the union of two ribs in their first unfolding, and when it so happens that there are 13 ribs, this is owing to the manner of unfolding of the apophyses of the first *vertebræ* of the neck, which are then found to be separated in two.

ing tongue-tied is not near so great an evil as the good women but too often imagine; it is not therefore so necessary to cut it, at least till it is observed to prevent or retard their speech; as to the child's sucking, if a new born infant can advance his tongue to his lips, the string can never prevent his sucking; it is in this case only, that this string shou'd be cut early; many and fatal consequences have been known to follow the too early cutting this string.

Surgeon *Petit* was called to a child, who had this string cut immediately after his birth; he was found stifled 5 hours after, the tongue was found doubled back, with its point in the *pharinx*. In some time after he was called to another child, who had this string cut 2 hours after it was born; this tongue was likewise doubled, but upon its being timely redressed, the child's life was saved for that time, but it soon after doubled itself; here again Surgeon *Petit* replaced the tongue, and contrived a kind of bandage to retain it in its place; this bandage consisted of a compress, 2 inches long, one and a quarter broad and half an inch thick, sowed to a proper bandage, and tied round the chin; this was to be taken off every time the child wanted to suck; but thro' the carelessness of the nurse, in not putting it on in the night, the child was found suffocated next morning; his tongue had entered the *pharinx*.

Surgeon *Petit* was called to a 3d child, which he carefully watched to take off and put on the above bandage, as often as it was necessary, and by that means saved his life; for he is still living. (1742) and grown up to man's state.

These observations direct us, 1st, Never to cut this string in young infants, but when it evidently prevents their sucking; 2dly, When it is cut to have the nurse ready to give it the breast; for it is the hemorrhage more or less that ensues, that first begins the evil; the child endeavouring to suck this blood, doubles naturally his tongue, which is now no longer retain'd by its *frenulum*, and the more he sucks, the more blood comes, till he comes at last to double his tongue, and is suffocated; this precaution of giving the breast to a child, whose string is just cut, extends as much to a newly born child, tho' the string had not been cut; for thro' a neglect of this kind, the child often doubles his tongue, and by that means choaks himself; Surgeon *Petit* met a case of the kind, where they were obliged to keep a watch night and day for 3 weeks, to prevent a new born child from swallowing his tongue; this child had often in an hour a stifling; some body by mere chance happened to put a finger into his mouth, for he had not yet got the breast, as the nurse was not yet arrived; the child had no sooner felt

felt the finger in his mouth than he began eagerly to suck it, which presently removed the stifling ; they took care to keep a finger always in his mouth, till the nurse came, who gave him the breast, which he sucked eagerly ; they were still obliged to keep a close watch to put a finger into his mouth the instant he awoke, otherwise he wou'd be in danger of being suffocated ; however, by being careful to give the breast to the child the instant he awoke, so as to keep the tongue employed, the tongue at length became settled in its place, and the child did very well after.

That the *Negro's* can in an instant deprive themselves of life, by doubling their tongue in the above manner, is a fact too well known to be doubted of ; as therefore an adult can swallow his tongue, so might an infant, and the more easily, after its *frenulum* had been unnecessarily cut.

When upon cutting this *frenulum*, either the artery or *venæ raninæ* are opened, Surgeon *Petit* has contrived a bandage to stop the hemorrhage ; for this purpose, he gets a forked stick which he shapes, so as that its trunk is 4 lines only long, and the branches of the fork 8 lines long ; he covers this fork-like stick with a fine linen rag ; he fixes the little handle against the lower jaw under the tongue ; the little fork embraces the tongue, and
by

by that means keeps it steady, and prevents its moving from side to side, and at the same time presses against the cut vessel; for the more effectual pressure on the cut-vessel, he gets a fillet 8 or 10 lines broad, and a yard long, with which he depresses the tongue against the wooden fork; he lays his fillet as far back on the tongue as the *commisſure* of the jaw will suffer him; he brings it down under the chin as close to the *larynx* as he can, without incommoding it; he there crosses the ends of his fillet, and pins each end on the back of the child's cap; this fillet presses the tongue against the wooden fork, which being supported by the lower jaw, forms a counter pressure on the vessel; the hemorrhage is by that means soon stopped, and as the tongue is kept fixed, the vessel soon closes.

Hair and Bones found in both Ovaria, 1743.

M. le Riche Surgeon-major of *Strasbourg* informed M. *Morand*, that upon opening a woman in that town, he found a kind of a yellowish substance like oil in both the *ovaria*, together with balls of hair, matted with the above oily substance, and a piece of a very irregular bone, in whose extremity were 3 distinct teeth in their sockets: the like bone and matted hair was found in the right *ovarium*. *Ruyſch* has several examples of hair and bones being

being found in the *ovaria* of women ; but he has no example of such things being found in both *ovaria*.

Fatal Consequence of a Hurt received on the Head.
Ibid.

M. *Vacher* Surgeon at *Besançon*, informed the Academy, that a man about 28 years old, got a fall on the left side of his head, for which he had been blooded twice ; for 18 months after he never felt any bad consequence from his fall ; about this time he began to complain of a violent pain in his left ear which discharged matter soon after ; this pain continued more or less violent during the space of 18 months he lived after ; he had besides during this time 8 different abscesses in different parts of the left side of his head, which became fistulous ; several things were prescribed to correct the *crasis* of his blood, but to no purpose for he died ; upon raising the *cranium*, an abscess was found on the exterior surface of the dura-mater in the left side, which discharging itself thro' the 8 holes that were in the *cranium*, supplied matter to the above fistulous ulcers.

Here are two very singular remarks to be made on this man's case, 1st, He was 18 months without perceiving the least uneasiness, in consequence of his accident ; and 2dly, which is still more extraordinary, that he should live

18 months wherein his brain had absceded, and was otherwise in so great disorder.

Death owing to the Point of a Sword imprudently left in the Wound, 1743.

A soldier at Clermont in Auvergn received a thrust of a sword in the small of his back, which stuck in his 12th rib, by which means the point of the sword broke, and remained in the wound; the Surgeon soon healed the wound, in appearance at least; the soldier being obliged to join his regiment, which was 80 leagues then from him, performed this journey with great pain; when he had joined the regiment, as he was still in great misery, his Captain had him examined by several Surgeons; but they cou'd discover nothing exteriorly; they therefore were of opinion, that the pain he complained of, was owing to the *cicatrix*, which they believed wou'd wear off with time. The poor man was still in great misery, and in some time after, began to complain of his head, and of a numbness in his lower extremities, in so much that he cou'd not stand on his legs; and whenever he sat or bent his body he felt as if some thing was tearing him in the place the wound was; upon examination, matter was found formed; the abscess was laid open, which discharged a reddish *serum*, and upon dilating the ulcer, to every body's surprize, the point of the sword

two inches long was extracted, which no body ever suspected to be left there; the patient was seized after with violent convulsive motions, in which he discharged plentifully every way; he became easier after, which gave some hopes of his recovery, but in 12 hours after, the fever appeared, accompanied with a *delirium*, and soon after, he fell into a profound lethargy, and died 34 hours after the operation had been performed. All the former symptoms were owing to this point of the sword's penetrating the *medulla spinalis*.

A Volvulus of the Intestines, 1744.

M. *Bouvard* Physician at *la Charité* produced a portion of the intestine, which had a true *volvulus*, the patient however never complained of a colic.

The Bones of the right Foot fell off after a Fever, 1746.

M. *Hequet*, Physician at *Abbeville*, writes that a woman of that town 4 or 5 months gone with child, was seized with a malignant fever, out of which she recovered; but when she thought herself quite well, she was seized with a most intolerable pain in her right foot; M. *Hequet* by the help of some anodine medicines, appeased the pain; the foot next morning appeared black, cold, and without any feeling; they to no purpose scarified the

part, applied spirits, &c. the *metatarsis* and toes separated together, the *ossa cuneiformia* separated one after the other; all that remained was the *astragalus* and *calcaneum*; she however went to her full time and was safely delivered, and is still living.

The same M. Hequet writes, that another woman in the like fever, had lost after 4 of the fore-teeth of the lower jaw, which fell out of their sockets without any pain.

An extraordinary Delivery of a Fœtus by the Anus, 1746.

M. Guillerme, Surgeon to the royal regiment of Marines, writes that a Suttler's wife of about 31 years old, 6 months gone with child, happened to get a fall in the street, whereupon she lost her senses; when she recovered out of this fainting fit, she complained as if her labor was coming on her; she had after a shedding, attended with a smart fever. As M. Guillerme cou'd not reach the *ostinæ*, and besides, cou'd not feel any motion as from the *fœtus*, he judged it must be dead; what things he ordered for her, removed the fever, so as to enable her to attend her business; her belly from the above fall grew neither bigger, nor less; she however, complained now and again of some pains in it, attended always with a shedding; she at last was seized with a very severe flux; the matter she dis-

discharged had a cadaverous smell; she was from a strong healthy woman reduced so low, that her life was now despaired of. M. *Guillermé* cou'd not answer it to himself to attempt to extract the *fœtus*, which was the cause of all her ailments, especially as it presented itself no where; but here *nature* was her best physician. She first discharged both the arms by the *anus*, the head and trunk came away soon after, the lower jaw only remained; but this also came away. All M. *Guillermé* did was to give the patient some gentle cordials to support her, and some clysters of oil, to facilitate the exit of the rotten carcass of her *fœtus*, and when all was discharged, some deterfive clysters; *nature* did the rest*.

The Description of a Dwarf, 1746.

This year a dwarf 6 years old was presented to King *Stanislaus* at *Nancy*, born the 13th of *November* 1741, the mother is about 35 years old; this was her first, and tho' she had some reasons to believe herself with child, yet she cou'd hardly bring herself to think she was so; and yet when her labor took her, she had a severe time of it, being 48 hours in labor; when he was born, he measured between 8 and 9 inches, and weighed 12 ounces. M. *Kast*, first Physician to the *Queen of Poland*,

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upon

* Do not all such cases seem to demand the speedy extracting such *fœtus's*? See the Note in Vol. I. p. 335.

upon measuring him, found he was 22 inches long, and weighed naked 9 pounds 7 ounces; he was then as fully formed as men generally are at 20; by this M. *Kast* conjectures, that he will grow very little after; he is every way well proportioned; has a pretty face, brown eyes, and silver colored hair; he has some marks of the small-pox, which he had at 3 months old; his belly was a little big, when he first came to court, but by the change of diet, it is fallen; he is of an extraordinary vivacity, has no notion of fear, nor will he be put off from the pursuit of his little amusements; his smiles are very agreeable, he seems fond of the women, who have the care of him; he did not know his mother, who came to see him in 15 days after she left him at court; his voice is like that of a child of a year old *.

A mon-

* We read in the *Phil. Trans. Abrid. Vol. X. Pt. 3. p. 1207.* of a dwarf born in *Norfolk* in 1728, which in 1750 weighed with his cloaths on 34 pounds, and measured with his shoes, hat and wig on but 38 inches; his limbs were no bigger than those of a child of 3 or 4 years old, his body is perfectly straight, the lineaments of his face are answerable to his age; he has a good complexion, is of a sprightly temper, discourses readily and pertinently, considering his education; and both reads and writes *English* well; his speech is hollow, tho' not disagreeable, he sings tolerably and imitates exactly the crowing of a cock; his father said, when he was about a year old, he was as big as children at that age usually are, but that he grew very little after.

A monstrous Womb, 1748.

A woman at *Luçon* aged about 36, carried a tumor for 13 years, which filled the whole capacity of the abdomen, and by degrees became 7 foot 10 inches in circumference; she died of it: upon opening her, the skin of the abdomen was an inch and a half thick, while the muscles lost one half of their natural thickness; when the *peritoneum* was laid open, the womb appeared monstrously distended; when it was taken out, it weighed 44 pounds; it was partly scirrhus, and partly soft. M. *Baron*, Physician at *Luçon*, attributes this monstrous tumor to this woman's imprudence when a girl, in washing her feet in cold water, when her *menfes* were on her, and folly of her parents, who wou'd not let her use the proper means to recal them at the time; when they applied to him after, it was then too late.

Tyger's Urine, a Spirit extracted from it, 1747.

M. *Girard de Villars*, Physician at *Rochelle*, writes that he had collected a considerable quantity of the urine of a large *tiger*; that it smelled exactly like the *Spanish fly*; he distilled this urine, from which he extracted a very volatile spirit, the good effects of which he experienced in violent histeric fits.

An

Strange Consequence after an Ulcer in the Groin, 1749.

M. Courcelles writes from Brest, that a little girl of 7 years old, had after the small-pox a critical tumor in her right groin, which thro' the great poverty of her parents was intirely neglected; it therefore rotted the intestines, thro' which both wind and *fæces* were discharged; they now dressed the ulcer with a charitable lady's plaster; but finding this did not heal the ulcer, they laid it aside, and covered the sore with a bit of clean linen rag only. In some time after, they perceived at the *anus* a *truss of hair*, an inch thick, and 3 inches without the *anus*. Nature at length cicatrised the ulcer, and all the complaints she now has is, that the above *truss of hair* prevents her going to stool. M. Courcelles conjectures, that this hair proceeds from the hair, that naturally grows on the groin, which is here inverted, thro' the neglect in healing the ulcer; what seems to confirm this conjecture is, that upon pulling this *truss of hair* the skin where the ulcer was, appears as if dragged inward.

This observation seems to prove that all the hair growing on the body is of the same nature of the hair of the head; it besides evidently shews, that ulcers of the intestines are neither mortal, nor incurable in their own nature, especially when judiciously treated.

An

An extraordinary Distention of the Rectum,
1750.

M. Navier, correspondent of the Academy writes, that upon opening a young lad of 15 years old, he found the gross intestines, but particularly the *rectum*, so distended with hard *faeces*, that it looked rather like a bag than an intestine. This lad was known not to go to stool above once every 20 days; the *sphincter* was in its natural state, and did not appear to contribute any thing to this extraordinary retention of the *faeces*; however extraordinary this case may be, yet it is not the only one, that has been met with; several have been cured of the same, by early evacuating the indurated *faeces*, either with the finger, or with an instrument somewhat like a spoon, before the parts were so greatly distended*.

As

* I remember M. Astruc, in one of his lectures, related the case of a lady, who thro' some neglect, had an indurated mass collected in the *rectum* as big as a middling melon, which at last precluded the passage: as it was to no purpose to attempt the dissolving it, he advised to endeavour to scoop it out, which was at last effected, by putting a finger in the *vagina* to keep it down, and was at length totally evacuated.

But the most extraordinary costiveness hitherto recorded, we find in the *Phil. Trans. Abrid. Vol. IV. Pt. 2. p. 82.* when about 2 years old, he had a violent looseness, which ended after in a most unusual obstruction, not going to stool but once in a fortnight or 3 weeks, and gradually not 'till 17 or 18 weeks, and sometime before he died, not under 19 or 20 weeks. He died at last aged 23.

As considerable a Distention of the Ovarium.
Ibid.

The same M. Navier writes, that upon opening a woman of 60, who had been the mother of many children, he found one of the *ovaria's* so dilated as to form a globe of above 6 inches in diameter, owing to the distention of its several cells, which were filled with either blood or *serum*; those cells did not communicate with each other, their contents whether blood or *serum* had no smell; the fallopian tubes were in their natural state; there are many instances of the *ovaria's* being distended, but none so considerably as this.

Two Aneurisms together with the Foramen Ovale open, 1750.

A man of about 37, of a middle size, was tied to a tree in a forest in *Italy* by some robbers; this man made all the efforts he cou'd during the space of 6 hours to release himself, but all was to very little purpose; for he might still remain tied, had not a fowler by chance come that way who untied him. These efforts he had made to release himself occasioned two *aneurisms*, of which he died. One was of the *aorta*, which was here treble its natural diameter; the other was of the left subclavian artery, which in proportion, was still larger than that of the *aorta*. This man had besides, the
foramen

foramen ovale open ; tho' there are several instances of *aneurisms* of the *aorta* in these memoirs, yet the singularity of the circumstances attending this case, deserves attention ; the academy received the above account from M. *Guattani* Surgeon to the *Pope*.

A very uncommon Polypus of the Heart. Ibid.

The same *Guattani* writes, that he found a *polypus* in the left ventricle of the heart, which appeared to be composed of several small vesicles, like those found in the *plexus choroides*, with this difference, that these are either scirrhous glands, or *hydatides*, while those in this *polypus* were full of air only.

HISTORIES of particular morbid
CASES.*Of the HYDROPHOBIA, 1699.*

THE *hydrophobia* or *dread* of *water* which sooner or later always attends the bite of a *mad-dog* is the most surprising symptom that cou'd accompany any disorder ; for what *analogy*, what connection can there be between the *virus* of a *mad-dog* and that horror that seizes the patient at the sight of all kinds of liquids, which not only throws him into convulsions, but renders him also furious ?

M. *Tauvry* having for some days attended a young man, who had been bit by a *mad-dog*, and foreseeing his death was inevitable ; determined to have him opened in hopes of finding something, which might bear some *analogy* to this *dread* of *water*. The inner surface of the *æsofagus* appeared inflamed, the *trachæa* was lightly so, about three spoonfuls of a brownish *flegm* was found in the bottom of the stomach, like what the deceased had often vomited up, the gall bladder was full of *bile*, which was almost intirely black, there was very little *serum* in the *pericardium*, the arteries were full
of

of very fluid blood, while the veins were almost empty, there was no congealed blood to be found any where, nor wou'd the blood congeal upon its being exposed to the air, tho' what was drawn from the deceased some days before readily did, the brain and all its *appendages* were much drier than usual, as were the beginning of the *medulla spinalis* and all the muscles of the body.

From these appearances M. *Tauvry* conjectures that probably the *saliva* and *bile* are the first humors of the body that are infected by the *virus* of a *mad-dog*. The deceased vomited an acrid matter, which excoriated and inflamed the *œsophagus*, whence probably proceeded the aversion he had to all kinds of food, whether solid or liquid, which cou'd not now pass without exciting great pain, and particularly liquids, which dissolve and extend those caustic salts enveloped in the *saliva*.

But how comes this aversion to take food, which is common in other disorders, to be here accompanied with so unaccountable an horror for all kinds of food, but especially for liquids ?

To account for this very extraordinary symptom, it might be said, that probably the peculiar quality of this *virus* is to dissolve the *crasis* of the blood ; such blood can supply but very little laudable nourishment, the veins for want of the necessary supplies become hard, dry and

contracted, of course do not so readily receive the blood from the arteries, these now overloaded with blood, must act with an increased force on the contained blood, whereby it is more and more dissolved; and as the brain and its *appendages* are now supplied with no other than a fiery, inflamed blood, the whole nervous system is by such blood readily thrown into convulsions: The rage and fury attending this disorder are easily deducible from this inflamed state of both the blood and spirits.

Palmarius hath long since observed, that the *hydrophobi* cannot behold a looking-glass, or any other transparent body; The reason is this, all such bodies reflect the rays of light too vividly, and on that account very easily excite commotions in nerves, so much inflamed and braced up as those of the *hydrophobi* are; besides, water and all liquids are not only transparent, but have likewise an intestine motion, very capable of exciting commotions in nerves so easily irritable as those of the *hydrophobi* are.

A true theory of the disorder will undoubtedly point out to us the best method of cure; and it must be ever lawful to hazard something in such cases, where death is inevitable, if something is not speedily done.

M. *Tauvry* conjectures that those acrid and warm medicines, usually employed are improper, he excepts *sea salt*, which he thinks may
in

in some fort preserve the cohesion between the blood-globules, nor does he approve of water-drinking, the deceased was always worse after drinking it ; and here he thinks that natural *instinct* which directs all *hydrophobi* to avoid drinking water shou'd be considered, as salutary ; vomits probably wou'd assist the cure, cou'd they be kept long enough in the stomach. The deceased found himself greatly relieved after he had vomited up a good deal ; *mercury* given in a good quantity might by surmounting the contraction of the veins, restore the circulation, absorbents also might be proper to obtund the acrimony of the *saliva* and *bile*, and a milk-diet after to restore the balsom of the blood, here intirely destroyed.

This subject once proposed in the Academy, several related the histories of such remarkable cures of the *hydrophobia* as came within their own knowledge.

M. *Poupart* said, that a woman that was mad, had been blooded *ad animi deliquium*, and kept tyed to a chair for a year, during which time she was fed with bread and water only, and recovered.

M. *Berger* said that out of many, who had been bit by a *mad-dog* two only had escaped, who had been blooded in the frontal vein.

M. *du Hamel* affirmed it was sufficient to wash the part with salt and water, others related

ted some instances, wherein the horror to water was overcome, by pouring water on them, till they were almost suffocated ; thus among others a man was tyed to a tree, and had two hundred buckets of water pour'd on him ; he recovered without any other assistance.

But the most remarkable history of all was what M. *Morin* related of a young woman of twenty years of age, who was bit in the hand by a little boy, who was mad ; she had all the signs of the *Hyarophobia*, and in sixteen days after the bite, they took it into their heads to bath her in a tub of water, which was rather cold than hot, and in which was dissolved a bushel of salt. After she had been worried a good deal, by often putting her in, and taking her out, they left her quite senseless sitting in the tub ; when she had recovered herself, she was greatly surprized to find she cou'd behold the water without feeling any emotion from it ; her disorder turned after to a common fever, which was treated in the usual manner ; as she had frequent inclinations to vomit, and was always relieved by it, *nature* was herein assisted ; she was several times after put into the cold-bath and at last was perfectly cured in little more than a month's time ; M. *Morin*, had this account from M. *Raoult*, Surgeon of the *Hotel-Dieu*, who constantly attended the patient.

It

It appears from this history, that whenever the horror to water, and all liquids is once well got over, the greatest impediment to the cure is removed. The patient is no longer disturbed at the sight of those transparent bodies; besides, he becomes more tractable and takes more freely both the proper medicines and food.

A further Inquiry into the Nature and Cure of the Hydrophobia, from my own Observation and reading.

The *hydrophobia* is probably one of the most ancient maladies on record. *Cælius Aurelianus* who has collected from the writings of the Greek Physicians all the symptoms of it with great pains and exactness, quotes *Democritus*, who was cotemporary with *Hippocrates*, for this disorder, as proceeding from a convulsive affection of the nerves. *Cæl. aurel.* page 227. Besides this quotation from *Democritus*, he cites *Homer*, who introduces *Teucer*, after he had slain eight Trojan chiefs, regretting he cou'd not kill that mad-dog *Hector*.

Since rallying from our wall we forc'd the foe,
Still aimed at *Hector* have I bent my bow.
Eight forked arrows from this hand are fled,
And eight bold heroes by their points lie dead.
But sure some God denies me to destroy
'This fury of the field, this dog of Troy.

Pope's Hom. B. viii. l. 360.

But besides this place, *Homer* in his ixth *Iliad*, l. 237. likens the terrible havock *Hector* made in the Grecian army to that of a mad-dog, and in a more particular manner, what he makes *Ulysses* say, in that famous embassy to *Achilles*, is not only very beautiful, but at the same time fully displays the superior art of the orator, in the happy disposition

disposition of his subject ; the better to induce *Achilles* to lay aside his resentment against *Agamemnon*, he artfully begins by describing all the miseries the *Grecians* suffered, since he had withdrawn himself from their camp ; he afterwards paints *Hector* in the most frightful colors possible, and to give the finishing stroke to the piece, he compares his fury to the rage of a *mad-dog*.

See, full of *Jove*, avenging *Hector* rise !

See ! heav'n and earth the raging chief defies ;

What fury in his breast, what lightening in his eyes !

Pope, B. ix. l. 310.

But exclusive of those testimonies from *Homer* of the antiquity of this disorder, we find a much stronger evidence in that *natural instinct*, observable in all dogs, which directs them to shun a dog that is mad ; for they are known to discover a dog to be mad by the very smell, or by seeing him or hearing him bark or howl ; as there have been dogs from the creation, this *instinct* in those animals must be *coeval* with the creation, or at least with the fall of man ; the *hydrophobia* therefore cannot be much younger.

Be this as it may, the *hydrophobia* is undoubtedly the most shocking disorder that ever afflicted mankind *. There is not perhaps that man living, let him be ever so bold and intrepid in other respects, but wou'd shudder at the approach of a *mad-dog* ; nor shou'd we be in the least surprized at this, seeing all antiquity are herein agreed, that no one ever recovered, when once the *pavor aquæ* appeared †.

The

* Miserrimum genus morbi, in quo simul æger & siti & aquæ metu cruciatur, quo oppressis in angusto spes est. *Cel.* l. v. cap. 27.

† Ex iis qui hoc vitium sensissent neminem unquam servatum vidimus. *Diascorid.* l. 6. c. 36. *Ætius* fatetur se neminem vidisse curatum, qui jam in liquidorum metum et abominationem inciderat. apud *Hild. Cent.* 1. page 64.

The fatal effects attending this frightful disorder naturally roused the attention of the Physicians in all ages, to discover some remedy, adequate to so contagious and cruel a malady; but however melancholy a truth it is, it must be confessed their endeavours have not been hitherto crowned with success.

Boerhaave assures us, that there is no account that can be depended on of any remedy capable of curing this miserable distemper, tho' many are celebrated for that purpose; all which owe their reputation either to barren speculation, or to too great a confidence in the reports of others; he does not except the secret of *Æschiron*, mentioned by *Galen* and *Oribasius*, consisting of calcined crayfish, nor the famous opiate for the *sicilian* madness, described by *Scribonius Largus*, nor the skin of the *Hyæna*, discovered to the same *Scribonius* by *Zopirus* Physician at *Gordium*, and which was no more than a bit of said skin tied up in a cloth, and wrapped round the left arm; nor that extolled by *Ætius*, *Rufus*, and *Possidonius* consisting of the ashes of crabs with mithridate; nor the boasted remedy of *Palmarius*, nor that composed of tin and mithridate, so much extolled by *Grew*, *Mayerne* and all sportsmen, nor the root of the dog-rose, revealed in a dream, as *Pliny* has left recorded. l. 8. c. 41. nor the *lichen cinnereus terrestris*, how much soever recommended by Doctor *Mead* and others, nor the *pimpinell* nor the fried liver of the mad-dog, all herein agreeing that the disorder is incurable, when it comes to the *pavor aquæ*.

Mead confesses "he had taken blood away plentifully, given opiates every 3 or 4 hours, tried volatile salts, *assafætida* rad. *valerian Sylvestr.* with other antiepileptics, as also the famous *Indian* remedy, *musk* and *cinnabar*, laid on blistering plasters, cooled with nitre and emulsions with barley water, but all in vain, because too late, and what is still more discouraging, that after he brought the patient to drink freely, he died in 24 hours with a fever and convulsions," *Essay on poisons* Ed. 3. p. 181.

Lister puts this question; how comes it that the *hydrophobia* has hitherto been incurable? he answers, it is

owing undoubtedly to our ignorance of the real cause of the disorder, which hitherto prevented our employing the proper remedies *, for as *Galen* justly observes, a Physician that can penetrate into the nature of the cause of a disease, will readily discover the proper remedies to remove it †.

Sydenham tells us in his preface, "that if he had an exact history of any disease, he never shou'd be at a loss to apply a suitable remedy. In his treatise on the dropsy he tells us, that the principal defect in the practical part of Physic proceeds not from a scarcity of medicines to answer particular intentions, but from the want of knowing the intentions to be answered; for says he, an Apothecary's prentice can tell me in a very short time, what medicines will purge, vomit, sweat or cool: but a man must be much conversant in practice to be able to inform me, as certainly which is the properest time of administering any particular remedy in all the different stages of diseases, and throughout the course of the cure."

These reflections are no where so universally true as in the *hydrophobia*; for certainly there never was any disorder, whose genuine nature has been so egregiously mistaken, or treated so inconsistently with its true genius. We find in all authors, that whenever the *dread of water* appeared, all was confusion; there was no regular practice then entered upon, because thro' the ignorance of the real cause, no rational indication cou'd be form'd; what the greatest practitioners then did, appears to be contraindicated, not to say desperate, and precipitately hazarded, all hopes of success being given over from the first appearance of the *dread of water*.

The great *Boerhaave* characterizes it an highly inflammatory distemper, which is the more to be wondered at, as he confesses that the blood drawn in the first stages of the disorder has all the apparent signs of laudable blood. In consequence of this notion he advises, "upon the signs of approaching madness to take away a large quantity of blood,

* *Lifter's Exercitatio medicinalis*, p. 54.

† *Medicus si suffecerit ad cognoscendum, sufficiet et ad curandum, Galen.*

blood, by a large orifice, even till the patient faints ; then directly to inject nitrous clysters, mixed with vinegar and salt, in short to repeat all these more boldly and oftener than is consistent with prudence in other cases." *De Rabie.* SS. 1141. N. 1.

Nothing can be so fatal in the treatment of this disorder at this deception, in mistaking the true nature of the disease, which is still most unfortunately supported by the appearances after death, in all those who die of this disorder, wherein the *œsophagus trachœa* and stomach are generally found more or less inflamed ; where the *meninges* brain, and all the muscles are found preternaturally dry, but here lies the *illusion*. The effect is confounded with the cause ; the inflammation of those parts observed after death is the effect, and not the cause of this cruel malady, herein resembling in a great measure what happens upon a sharp stone's passing thro' the *ureters* the *spasmodic stricture* the stone excites in those nervous parts, if not speedily released, will soon bring on an inflammation, which if not speedily discussed, will soon end in a mortification and death. Now, upon opening this body, the mortification will naturally be taken for the cause of the patients death, whereas in reality it was but the effect of the above *spasmodic stricture*, excited in the nervous membranes of the *ureters* by the sharp passing stone.

Baron *Van Swieten* in his comments on *Boerhaave's* aphorisms SS. 1140, allows this inflammation is rather an effect or consequence of the disorder, than a productive cause of it, add to this, that the patients when they begin to dread water, make no complaint of any pain in their *fauces*, but can swallow solids without any impediment. A youth 14 years old, who died of this disorder, eat heartily, tho' he cou'd not swallow any kind of drink. *Phil. tr. abridg. vol. 4. pt. 2. p. 163.* whereas in a quinsy there is both pain and inability to swallow solids ; tho' liquids are easily swallowed, which clearly evinces that the difficulty of swallowing liquids in the *hydrophobia* is not owing to an inflammatory state of the *œsophagus*, but rather to a spasmodic stricture of it. Baron *Van Swieten*

confesses as much, and compares it to the hysterical suffocation, where deglutition is likewise impossible. Ib. SS. 1142.

When we attentively consider how all ingrafted poisons act upon the nerves and nervous fluid, we shall the more easily conceive, how the poison of a *mad-dog* excites those *spasms* and all the other frightful symptoms accompanying this disorder. When the *small-pox* for example is ingrafted, we find the patient continues in full-health for 6, 8, and sometimes for 10 days, probably because some such determinate number of days is requisite for the ingrafted matter to make the necessary changes in the blood and other fluids, to produce the desired effect; after this time, the patient all of a sudden is seized with *horrors*, *rigors*, fever, thirst, heat and pain in both his back and head, with an inclination to vomit, all evident signs of those *spasmodic strictures*, excited by the ingrafted matter in the nerves and membranous parts, which continue in one shape or other to the end of the disorder, returning regularly towards night in alarming exacerbations, which must be taken off, by giving early some anodyne draught, as the sagacious *Sydenham* has long since taught us.

Again, the inoculated most commonly complain of a darting pain, which shoots from the place the matter was grafted in, agreeing herein with the *hydrophobi*, who generally complained of a darting, cutting pain in the part bit, which is communicated in a progressive manner to the other parts, till it ends at last in convulsive risings and catchings in the *œsophagus*, especially at the sight, or even on the bare mentioning of water, thereby rendering the swallowing it either really, or at least seemingly impossible.

It is every days experience, that when the *tendon* of the muscle *biceps* is pricked upon bleeding in the arm, the symptoms accompanying this puncture bear a very great analogy with what happens after the bite of a *mad-dog*; and tho' there was no poison ingrafted, yet the arm soon begins to swell; the inflammation appears soon after, seizing the whole arm, neck and breast, and if not speedily restrained, sickness at stomach, faintings, convulsions and death

death will assuredly follow as in the *hydrophobia*; and as in the puncture of the *tendon*, anodine and lenient poultices are known happily to stop the progress of the evil, undoubtedly by releasing the *spasmodic strictures*, of the tendinous fibres; so from *analogy* we may reasonably conclude, that the like anodine and lenient topical applications, if early employed, might bid as fair to release and take off those *spasms*, in which the real and genuine nature of the *hydrophobia* probably consists.

“Doctor Mead acknowledges the *hydrophobia* is of the *spasmodic kind*, wherein all the nerves are drawn into cramps, particularly the muscles employed in deglutition are convulsed, their action is lost; and then it is impossible to get any thing down. To ask one in this condition to drink, is to desire him to choak himself: and when he has found this to be so, he dreads the sight of liquors offered to him as much as he wou’d a knife presented to his throat, and strives to keep them from his mouth.”
Essay on poisons Ed. 3. p. 144. 45.

Boerhaave agrees herein with Doctor Mead; so far as we may conjecture from the history of the disorder—it seems to consist in a particular convulsive affection of the nerves, with which the *viscera* and their respective vessels are seized, *ibid.* SS. 1142. but further, daily experience teaches us, that the poison of the *viper* and *scorpion*, known to bear a great *analogy* with the poison of a *mad-dog*, is successfully cured by such anodine and topical applications. In the experiments made by the *viper-catchers* on themselves, every body knows, that when they delay for any considerable time to chafe the part with warm oil, that the part soon begins to swell, and that after they sooner or later begin to complain of a sickness at the stomach, and that a very short delay in chafing the part with warm oil, wou’d prove fatal. And perhaps many a poor ignorant wretch has been betrayed into the *hydrophobia* thro’ the like neglect, who might escape, had he early made use of some such lenient anodine topical application, or washed the part bit with a mixture of salt, water and vinegar, or with spirits of wine and *camphor*, or with some such

such stimulating medicine, capable of keeping the fore open, not forgetting to give inwardly at the same time the proper antispasmodic's; the chief of which is *opium*, which therefore should never be left out. See Doctor Nugent's account of *Eliz. Bryan's case*. The happy success attending the method proposed by the late M. *Desault* of *Bordeaux*, seems to corroborate what we have advanced concerning the nature of the *hydrophobia*, as proceeding from the *spasmodic strictures* of the nervous filaments. And as it seems very probable that *Desault* took the hint of calling in *mercury* to subdue this rebellious poison from M. *Tauvry's* memoir, I shall beg the reader's leave to give here the substance of his method and manner of employing it, "whenever says he, any body comes to me, after he is bit by any *mad-animal*, I send him directly to bath in the sea, not from any dependance I have on its efficacy, but by reason it is authorized by custom. It raises the patient's confidence, calms his mind, abates his fears, which distress him both day and night. 2dly, After his return I order a dram of *Palmarius's* powder to be taken every morning fasting in a glass of white wine, or in water by such as cannot take wine. This quantity of the powder is to be taken for 30 days by such as have been greatly torn, and 20 days only by such as are slightly bit. 3dly, I at the same time order a dram of the mercurial ointment to be rubbed into and about the part bit every other night, and after the 3d rubbing, every 4th night, till about 2 or 3 ounces of the ointment are used, proper regard being always had to the strength, sex and age of the patient—but when the patient does not come to me till several days after he is bit, in that case I proceed immediately to the friction with the mercurial ointment, and order it to be rubbed in every day for 3 or 4 days, encreasing at the same time the dose of *Palmarius's* powder; here I interpose the use of the ointment for a day or two, in order to prevent a *ptyalism*, tho' I have had some thoughts that a slight salivation might be attended with very good success; for the poison of a *mad-dog* is known to have a great affinity with the *salivary glands*; there is therefore

therefore every reason to hope, that *mercury*, which has been found able to subdue so many other contagious poisons, will also be found capable of destroying the poison of a *mad-dog* *.

I permit the patient to use his usual diet, forbidding only all kinds of excess, I also allow him wine in moderation, wine is known to inspire man with courage, and to dispel his fears, I also recommend never to leave him alone, but rather to go abroad, see company and assist at concerts of music; music is known to suspend for a time both the horror and sadness attending this disorder.

But whenever they have delayed applying for help till the approaching signs of madness appear, the case being then too pressing, I order a dram and a half of the ointment to be rubbed immediately into the *cicatrices* and places adjacent, the like quantity to be repeated for 3 days successively. I then interpose a day; and after the 5th friction, two days; during this time I order a dram and a half of *palmaris*'s powder to be taken every day.

The *cicatrices* which were before both hard and swelled, and of a livid color, begin to grow flat and soft, after the 3d rubbing; the pain complained of is likewise found to go off; the patient's courage returns; his mind resumes its natural composure and tranquillity, and being now perfectly cured, he chearfully resumes his former occupation." *Dissertation sur la Rage*, p. 302.

Palmaris's Powder.

Rue, *vervain*, *plaintain*, *polypody*, *common-worm-wood*, *mint*, *mugwort*, *bastard baum*, *betony*, *johns-wort*, *lesser centory tops*, of each equal parts made into a powder. *Desault* adds *coralin* as a powerful anthelmintic, agreeable to his notion of the *hydrophobia*'s proceeding from worms conveyed by the *saliva*, of the mad-animal to the person bit.

An

* Baron *Van Swielen* herein agrees, that we may safely raise a salivation in this disorder. Ib. SS. 1146 ad finem.

An Enquiry how far the Use of the Cold Bath, Blisters, stimulating Clysters, &c. may be serviceable in the Treatment of the Hydrophobia; and whether the warm Bath, together with Anodyne and gentle diaphoretic Medicines, be not more analogous to its true Genius and Nature.

All the ancient Greek Physicians, *Diascorides, Galen, Aëtius, Paulus Aegineta*, and particularly *Cælius Aurelianus* and *Celsus*, who have carefully collected from the writings of the Greek Physicians their method of treating this disorder, do one and all recommend the *cold-bath* in the cure of the *hydrophobia*. Such of the moderns as have wrote on this distemper are full as forward in recommending the *cold-bath*. Doctor Mead "orders his patients to bathe in the *cold-bath* or in the river for a month, and after this to bathe 3 times a week for a fortnight longer." Essay on poisons, Ed. 3. p. 165.

Boerhave likewise advises the *cold-bath* with this additional circumstance: "He directs the patient to be thrown head-long into the sea, or some river with a great deal of apparatus, threatening words and other circumstances capable of striking terror into him—for the effects are only produced by the dread and consternation into which the mind is thrown, and not by the sea-water." *Ibid.* SS. 1143. N. 1.

When we consider the notion these same authors have given us of the nature of this malady, it is impossible to reconcile their practice with their theory.

Democritus, as we saw before p. 95. assigned a convulsive affection of the nerves for the cause of the *hydrophobia*. Both *Mead* and *Boerhave* acknowledge it to be of the spasmodic kind. See before p. 101.

Now, if the terrible effects attending the bite of a mad-dog, be truly owing to *spasmodic strictures*, excited by the poison of a *mad-dog* in the nerves and membranous parts, it is sufficiently obvious that the *cold-bath* must rather encrease

crease than relax those *spasmodic strictures*; for the first effects of the *cold-bath* are sensibly *spasmodic*, as all those who have ever been in a *cold-bath* must have felt.

This method therefore of bathing recommended, with the additional frights, *throwing the mind into dread and terrors*, already too much affected with vain terrors, which make the *chief characteristic symptom* of this disorder, might it is apprehended, easily occasion one general spasm never to be released, and so in an instant snap the thread of life.

As the *hydrophobia* is confessedly of the maniacal kind, and as it is well known that all *maniacs* have what is called their *mad-point*, which as often as it is touched upon, never fails to rouse up all its horrid symptoms, and enrage their distemper; and as in the *hydrophobia* water is the *main point* their madness chiefly turns upon, *immersion in water*, or even *water drinking* shou'd be religiously avoided, if we ever expect to perform a cure.

On the other hand, upon a supposition that the true essence of the *hydrophobia* is of the highly inflammatory kind, as *Mead*, *Boerhave*, and indeed as the notion now universally prevails, let us examine, if the *cold bath* be not equally as improper as if it was really and truly of the *spasmodic* kind.

Inflammations we know proceed from a stagnation of the blood in the capillary sanguine arteries, or its irruption into the lymphatic arteries. Every pressure on those arteries now distended with blood, must of necessity lessen their diameters, of course retard the circulation of the blood thro' them. What cause so powerfully capable of lessening the diameters of the several orders of the vessels of the human body, or of retarding (and perhaps for ever suspending) the circulation of the blood in those capillary sanguine or lymphatic arteries as the violent shock of the *cold-bath*, especially in vessels spasmodically affected, as those of the *hydrophobi* are here supposed to be? for in order to the preservation of health, it is necessary that the vessels of the human body be indued with proper powers, *i. e.* be capable of yielding (at least to a certain degree) to every impellent and compressive force, and of returning after to their former

state and largeness, whenever the distending and compressing cause ceases to act: this is called *the mobility of the vessels*. Now, it is sufficiently obvious, that the vessels of the *hydrophobi* do by no means enjoy this happy *mobility*; their vessels are rather in a tonic, *spasmodic state*, more disposed to resist than yield to the compressive power of the *cold-bath*. Every cause therefore capable of increasing the *spasmodic stricture* of their vessels and nerves must necessarily be productive of irreparable mischief; such I apprehend the *cold-bath* will ever be found to be, and in that case it shou'd never be employed in the cure of the *hydrophobia*, i. e. when it comes to the *pavor aquæ*.

We find on record some bold and desperate methods of cures proposed by some Physicians; but we do not find one instance in the whole history of physic, wherein the *cold-bath* had been even so much as proposed for the cure of any inflammatory disorder, except in this very case, in the *hydrophobia*, if it be one. The *quinsy* as being attended with a difficulty of swallowing, and suffocation, so far resembles the *hydrophobia*, and yet no Physician ever advised the *cold-bath* in the *quinsy*, a strong argument that they never considered the *hydrophobia* as a highly inflammatory disorder, when they advised the *cold-bath* for its cure.

As to *blisters* and every other stimulating medicine, as they are known to be very capable of exciting *spasms*, and *spasmodic strictures*, so they must be ever contraindicated, where so many *spasms* and *spasmodic strictures* are on foot already, as we apprehend is the case in the *hydrophobia*.

And as to bleeding and vomiting, we think with Dr. Nugent they are very seldom necessary, or indicated, except in some very particular cases, where there may be a visible *plethora*, which may call for a bleeding, or where the patient is harrassed with frequent reachings to vomit: here it may be proper by some diluent, subtepid draught to cleanse the stomach from the acrid, irritating matter; the more so, if the patient appeared to be relieved, or find benefit from such helps, as we saw in *Taury's* case.

But as to the *warm-bath*, as it speedily relaxes both the nervous and vascular system, promoting by that means perspiration and all the other secretions, and with all operates
so

so easily, one wou'd think that nothing cou'd be so proper or more useful in the *hydrophobia*, especially upon a supposition that it is truly of the *spasmodic kind*.

The ancient Greek Physicians we find prescribed it sometimes. *Cæl. Aurel. ubi supra, p. 232.*

Celsus also tells us, "Some presently after the bite of a mad-dog, order such a patient into the bath, and allow him to sweat there as long as he is able, with the wound bare, that the poison may the more readily be discharged; then they refresh him with plenty of strong wine, which is an antidote to all poisons; and when this method has been pursued for 3 days, the patient is then thought out of danger." *Cels. L. v. ch. 27.*

Doctor *Mortimer* in his *Thesis inaugur. de ingressu humorum in corpus humanum, L. Bat. 1724*, proposed the use of the warm-bath, or at least warm fomentations he thought might be of a greater service to persons bit by a mad-dog than cold application, the warm-bath opens the pores as the cold-bath shuts them.

Mead severely censures the Doctor, "I am sorry, says he, to read in the *Phil. Transf. N. 443.* a remark of a learned gentleman, who upon my recommending cold-bathing, proposes rather the use of the hot-bath; because a cold bath, he says, shuts the pores, as a warm-bath opens them. Surely, he shou'd have known, that the shutting of the pores by a short cold immersion is naturally followed by a glowing warmth, which relaxes and opens them, — promotes perspiration without the distension of the vessels, by an *inflammatory heat*. I am afraid no bathing, whether hot or cold cou'd clear a head possessed with such immechanical notions. *Essay on Poisons, p. 179, 80.*

This is pretty severe treatment, and more than one cou'd well expect from the polite and learned Doctor *Mead*. However with due deference to better judges, I apprehend he has here overstrained this matter.

In the first place, I humbly contend that such persons as feel this glowing-warmth upon coming out of the cold-bath are those, and those only, whose vessels have still retained their natural mobility, and are no way spasmodically affected, and whose viscera are sound; the effects of the cold-bath in such habits is most undoubtedly to promote

mote a free circulation thro' the several orders of the vessels, and to promote not only *perspiration*, but every other secretion besides ; but I must again contend that no man, the least conversant with the laws of the *animal œconomy*, much less Doctor *Mead*, cou'd upon mature reflection, divested of all prejudice, expect the same salutary effects to follow on the immersion in cold water of a poor unhappy wretch, whose vessels no longer enjoy their *natural mobility*, but are preternaturally and spasmodically affected, but on the contrary he must rather shudder within himself, least what he meant as a cure might destroy his patient, by exciting one general *spasm*, never to be relaxed.

As to what the Doctor adds, *viz.* " The cold bath promotes perspiration without the distension of the vessels by an inflammatory heat ; is not very intelligible, and at best seems to be inconsistent with his own practice ; for in his *monita medica*, p. 115, and 173, he there lays great stress on the warm bath in the cure of both the iliac-passion and *nephritis*, and does not appear in the least alarmed at this *distention of the vessels by an inflammatory heat*, which he so greatly dreads wou'd inevitably be the case, was the warm bath employed in the cure of the *hydrophobia*.

Be this as it may, let the *Hydrophobia* be either of the spasmodic or inflammatory kind, if the warm-bath be proper in a *nephritis* which is allowed to partake of both, the same warm bath will be equally as beneficial in the *hydrophobia*. *Par utrobique ratio*. It is well known that in the small-pox, as well as all other ingrafted poisons, which excite the like *spasmodic strictures* that tepid, warm-baths, warm emollient fomentations to the extremities, have every good and desired effect in relaxing the *spasmodic stricture* of the skin, upon the first seizure of the small-pox, by which the variolous poison comes speedily and kindly out *.

In the inflammatory tension of any of the extremities, proceeding from either puncture, wound, contusion or fracture, it is well known that warm, emollient fomentations, emollient and lenient cataplasms do happily allay all the terrifying symptoms that accompany them,

* See Vol. iii. p. 103. The use of the warm bath in the small-pox.

them, even in the bite of the *viper*, whose poison is in its effects very like that of a *mad-dog*, the chafing the part with warm-oil as happily stops the progressive motion of its poison. What reason then, founded on the known laws of the *animal œconomy* is there to refuse the same salutary effects to the *warm-bath* in the cure of the *hydrophobia*?

I begin to apprehend I have already carried this inquiry too far; I can only assure my readers, that my only motive in adding reflections on particular cases was to be useful, if I shall be found to have erred, I hope some humane person will be kind enough to set me right. He may be assured of my most sincere thanks.

As it very frequently happens, that the supposed *mad-dog* is killed, before it is well ascertained that he was really mad, or not, in this case, the person bit is naturally in a perplexed very uneasy situation, not well knowing what to do; it is therefore of the highest importance to him to have this matter ascertained.

Surgeon *Petit* has cleared up this affair; he directs to rub a piece of boiled meat in the *fauces* of the supposed *mad-dog*, and present it after to any other dog; if this dog refuses the meat, howls and barks at the same time, there is a very strong presumption that the dog was mad; but if the dog eats the meat, there is no danger of any infection from the bite.

This experiment is confirmed by this matter of fact; all dogs by *instinct* are known to shun and run from a dog that is mad; they will know a dog to be mad by the very smell.

A most extraordinary Escape from the Hydrophobia, 1749.

The *Chevalier* * * * returning from hunting, was bit in the arm by a large mastiff dog; there was no blood drawn, for the skin was not broke; the part was covered only with the dog's flaver; all the patient felt was
a slight

a slight pain, but this went off by the next morning ; even the accident was quite forgot, 'till about 20 days after as he was hunting, he grew so ill as to faint away ; when he recovered out of this fainting fit, his servants told him he made several wry-faces ; here he began to suspect there was something in the case ; he however supped abroad, and did not go to bed 'till about one in the morning ; he was scarce two hours in bed, when he raised the whole house by the horrid out-cries he made ; they found him stretched on the floor and quite senseless : there cou'd no doubt remain now about the nature of this disorder ; the gentleman himself knew it so well, that he desired they wou'd tie him, and it is well they had, for in less than three hours after he had a more violent fit than the first ; he was just recovered out of a 4th, when the Physician came ; the gentleman related to him all that happened ; he likewise told him, that he had given orders to prepare a *nostrum*, with which he often cured his hounds whenever they went mad, and had even cured a young woman of 17, who had been bit by a mad ox : this *nostrum* consisted of calcined oyster shell powder ; half an ounce of this powder is directed to be given in half a pint of white wine, repeating it in 24 hours. It is further directed to be given as soon after the bite as possible, before the patient has had a fit ; but after he

has

has had a fit, this same powder is directed to be made into an omelet with 3 new laid eggs; this omelet is to be repeated every 12 hours; the patient is not to drink after it, or during the time that he is taking it; the gentleman took this *nostrum* with some difficulty, it however did not prevent his having 4 fits in 16 hours; he always perceived the fits coming, and wou'd then with a suffocated voice, say to those present, withdraw; his eyes wou'd then turn in his head, and became inflamed; his face and whole body was convulsed; wou'd endeavor to bite every thing about him, and wou'd bark like a dog; his mouth filled with froth; his voice was hoarse and became almost extinct; after this fit he always fainted, and then he looked like a corpse; when he recovered, he expressed great uneasiness, fearing he had bit some body in his fit; it is however probable that this *nostrum* had in the end the desired effect, otherwise so many violent fits must necessarily have killed the patient: its true, he remain'd 4 months without being able to move or walk, but by drinking the waters of *Plombieres*, he perfectly recovered the use of his limbs*.

A new

* The subtilty of the *virus* of a mad-dog is very surprizing; *Cæl. Aurelianus* assures us, his very breath is sufficient to communicate the infection. L. 3. c. 11. *Jo. Pierus* says, that a Surgeon upon dissecting a mad-dog was infected by the very vapor that exhaled from his body: And *Palmarius* assures us, that the very breath, or kissing a person that was mad, wou'd communicate

A new and extraordinary Kind of Scurvy,
1699.

The directors of the *Hôtel Dieu*, being apprized of the great numbers of sick, that daily crouded the hospital, and apprehending the consequence of their spreading an infection, removed those to St. *Lewis's* hospital, which is without the city of *Paris*, where M. *Poupart* then attended; he soon perceived that this distemper had a great *analogy* with that cruel plague the *Athenians* were sorely afflicted with *.

These in common with all scorbutics, complained of pains in their thighs, in the calves of their legs, belly and stomach; they lost the use of their limbs, tho' they retained their feeling; they had head-achs and convulsions; their gums itched greatly and were so rotten, as to come in pieces in their fingers; the blood oozing from them was both watery, brackish and corrosive; the stench from their breath was intolerable; they had hard, blue spots on their

communicate the infection. He related the history of a peasant that was mad; when he was dying, he earnestly requested he might be permitted to take leave of his children; he no sooner had kissed them than he died quite suffocated: these were instantly infected, and died 7 days after mad like their father.

Matbiolus, Obs. 86. says, he knew two persons who were infected by the slaver of the mad-dog, tho' they were no way wounded or bit by him; and *Mattheus de Gradib.* knew a man that became mad, by putting his hand into a mad-dog's mouth, tho' the dog neither bit or hurt him.

* *Leucet.* l. 6.

their thighs and legs ; blood came from both their *nose and anus* ; whenever they attempted to move, they tottered, so weak were they.—the particular symptoms were, a small clattering noise of the bones upon the least motion, which N. V. Physician at *Rochelle* takes notice of in his treatise on the scurvy, but confesses he cou'd not assign the true cause of it ; in all those in whom the afore said noise was heard, the *Epiphyses* were entirely separated from the bones, these *Epiphyses*, rubbing against the bones, occasioned the above clattering noise ; in some a low noise was heard, upon drawing in of their breath, in these the *cartilages* were found separated from the ribs, but as the *cartilages* are softer than the *Epiphyses*, so the noise they made was lower, or less ; these all died to one ; such as had *pus* or *serum* in their lungs had the *cartilages* separated from the ribs, these were carious 4 inches of their length, which shews how corrosive all their juices were ; most of those that were opened had their bones both black and carious ; why all scorbutics walk staggering, has not been hitherto well understood ; the strength of the joints is in proportion to the spring of the ligaments, that connect these joints ; but as the ligaments were here partly corroded, by that caustic lymph, and as the *Epiphyses* were separated from the bones, the spring or strength of those ligaments must ne-

cessarily be weakened ; the sick must consequently walk tottering.—All under 18 had their *Epiphyses* separated ; at that age the *Epiphyses* are not so closely united as in a more advanced age ; the bones were here twice as big as in a natural state, owing to their being soaked in that caustic lymph, which swelled and distended their fibres ; and such as recovered had them swelled for a long time after without any inconvenience, because they might grow less in time, as those in *rickitty* children are known to do ; such as had a difficulty of breathing, or were otherwise oppressed, had *pus* or *serum* in the cavity of the *thorax* ; and the lungs were more or less full of the same ; others were so oppressed as to die suddenly ; and yet there was no *serum* found in either the *thorax* or lungs ; all that was found was adhesions of the *pericardium* to the lungs, and of these to the *plura* and *diaphragm*, which gave all those parts the appearance only of one confused mass or substance ; all these parts being all ulcerated, they easily adhered to each other ; the lungs in such a case, cou'd not expand themselves, suffocation, and death must unavoidably ensue. The mesenteric glands in all scorbutics are found tumified ; but they were here impostumated ; the liver in many was partly rotten, and in some the *pus* in it was petrified ; the spleen was 3 times bigger than what is natural ; and fell to pieces upon handling

ling it, as so much clotted blood wou'd ; in some the kidnies and lungs were full of impostumes ; in all under 15, when one pressed the ribs, a good deal of corrupted matter issued forth ; it was the spongy substance of these ribs ; for all that remained was the two bony plates only. All the appearances of the scurvy in others were only some light ulceration of their gums, but in some time after there appeared hard tumors on their hands, instep and other parts of their body ; and in their groin and arm-pits several large abscesses, with blue spots all over the body ; these were sure harbingers of death ; All these had the glands of the arm-pits swelled, and surrounded with *pus* ; the muscles likewise of both their arms and thighs were swelled, and their interstices filled with *pus* ; some had their arms, thighs and legs of a dark red color ; owing to blood extravasated under the skin ; their muscles were so hard, that their limbs cou'd not be extended ; the spots of different colors observed in scorbutic bodies, such as blue, red, yellow and black, are owing to the same extravasated blood ; when the spots are red, the blood is then alone ; but when it is coagulated the spots are then black ; and when the bile is mixed with it, the spots are of a dark yellow ; others had some small tumors, which daily increased, and when opened, coagulated blood only was found ; however by often renewing the dress-

sings these tumors were at length dried up, and the patients recovered ; some very old folks had such violent hemorrhages from both their nose and mouth, that they died, it being impossible to stop it. Allowing to the great acrimony of their lymph, which corroded their vessels. For the blood of old folks is naturally thin and watery, whereas that of the young is not, and for that reason they are not so subject to those hemorrhages ; however, some of both sexes, young and old, had such violent fluxes, that carried off the weakest ; but such as had strength to bear it, recovered ; others again were so costive, as to require clysters ; others were swelled all over their bodies, hands, arms, &c. these were cured by phisic, clysters and sweetening juleps ; a boy of ten years old had his gums greatly swelled and ulcerated ; his teeth were loose and rotten ; these were obliged to be taken out to deterge his mouth ; his breath stunk immoderately ; when his gums were healed, there appeared on one side of his tongue a little tumor, and in some after another on his cheek ; both these tumors became ulcers ; he died at last, when least suspected ; upon opening him, all his inward parts were found rotten. Such as died suddenly, without any visible cause, the auricles of their hearts were found as big as ones fist, and full of a coagulated blood ; which suddenly intercepting the circulation, death must necessarily ensue.

Many

Many had a little white and hard ulcer on the cheek, which if not timely kept down with caustics, wou'd soon spread and become livid, black, and fetid, corroding the cheek, so as to leave all the teeth bare.

Many between 18 and 30 were quite stupid, and without motion, with their mouths open, their eyes sunk into their sockets, their looks frightful, appearing more like statutes than men; these had no other appearance of illness than ulcerated gums; their skin was smooth and fair, without either spot or hardness, yet upon opening them, their muscles were all mortified, and upon handling them, wou'd fall to pieces; one man had a carbuncle on his instep; his lips, and the grisly parts of his nose were chopped; a stinking water constantly trickled from his nose; he lingered on a great while, but died at last, his body became so frightful, that no body wou'd venture to open it.

A young man who did not appear to be very ill, died suddenly; upon opening him, the *pericardium* was quite consumed, and the heart was all round deeply ulcerated.

Scorbutic folks are generally better in summer than in winter; owing to a freer discharge by the skin, which carries off a good deal of the salts out of the blood; here it was the reverse; they were tolerably well from *April* till *June*, the spots, hardness, and other symptoms had

had already disappeared ; but upon the approach of the hot weather, all the former symptoms returned ; many that were able to go out relapsed ; their thighs and legs became black, and many of them died ; all owing to that great quantity of acrid lymph, which cou'd not be intirely carried off by the skin ; the succeeding great heat put this acrid lymph into motion, destroying the parts, producing abscesses and ulcers, and all the other appearances above-mentioned.

All these poor people eat greedily to the last, so great was the acrimony of their gastric juices, as to excite this *canine* appetite.

Long abstinence is known to destroy the *crass* of the blood ; bad food is still more capable of doing it ; cold, by checking perspiration, and coagulating the blood, disposes it to stagnate in its vessels, and from its natural tendency to corruption, soon sours, and corrupts. Grief and sadness, which accompany these evils contributed more than all other causes to increase their misery. But where all these causes concurred, it is easily seen how capable they were to produce the above caustic lymph ; so caustic was this lymph that the skin peeled off the Surgeon's hands, who opened the dead bodies ; his face was likewise ulcerated, so as to oblige him to rise often in the night to wash and cool it ; but what was very extraordinary, the

the brain of those poor people was always found and intire.

An extraordinary Kind of Dropsy, 1700.

M. *Vernage* of the faculty of *Paris* having ordered a young girl to be tapped, was greatly surprized to find a milky liquor come away in the place of *serum*, or water; some of this liquor he produced before the Academy, who examined it with care; it had the consistence color and taste of milk, except that it was a little saltish; it wou'd froth like milk, when poured from one vessel to another, and wou'd likewise boil up and rarefy when put over the fire, as milk does; but was still lighter and wou'd not curdle with acids, as milk is known to do, and yet it wou'd curdle with salt of *tartar*.

M. *Vernage* was now no less astonished at the quantity, than he was before at the quality of this milky liquor; for this girl was tapped, at least every 15 days, and at each tapping had 13 or 14 *Paris* pints of this same milky liquor taken from her.

Various were the conjectures concerning this milky liquor; some were of opinion it was extravasated *chyle*, from some of the lacteals, now ruptured; what seemed to corroborate this conjecture was, that M. *Vernage* remembered, that the girl had told him, that she had made repeated efforts to lift a heavy load, and that her disorder appeared soon after; but *chyle* never curdles upon the admixture

ture of salt of *tartar*, as this did. Others were of opinion that it was the common extravasated liquor of all dropfies, now mixed with some of the *chyle*; and what gave it the milky appearance was its being complicated with a rupture of some of the *laeteals*. The following experiment of M. *Mery*'s seemed to countenance this conjecture; he took the stomach and a portion of the intestines, and filling them with water, and tying both ends after, he perceived the water exuded thro' their coats, tho' air, a much more subtile fluid, wou'd not. He further added, that he often observed the lymph to exude thro' the substance of the womb, and the milk in child-bed women thro' their skin. Lastly, that the water in an *ascites* is known to be often evacuated by purgative medicines, which cou'd never happen, did not the extravasated fluids, *chyle*, *serum*, *lymph* penetrate thro' the coats of the intestines; so in the case before us, the *chyle* may exude and mix with the *serum*.

M. *Homberg* gave the following reason, why air does not so readily escape thro' the coats of the intestines, as water; the fibres of these membranous coats are connected together by a kind of *gluten*; the water not only dissolves this *gluten*, but relaxes the fibres, in so much, that these fibres easily separate to suffer the water to escape. Air cannot produce any of those effects, it neither can dissolve this *gluten*,
much

much less relax the fibres, so as to separate them. M. H. to evince this matter made the following experiment ; he filled a bladder with air, and tied it close ; he after laid a weight on it, yet the air wou'd not escape ; he no sooner put this bladder into water than the air began to escape ; the water by the above mechanism opening its prison.

This girl after 12 months illness and 24 tappings died ; she was opened with so little care, that all the Academy cou'd learn was, that some of the lacteals were found ruptured.

A similar Case, 1710.

M. *Littre* related a case nearly similar ; a young and healthy girl about 7 years old, got a fall upon her head ; the fall had so disordered the symmetry of the brain, that she soon after became dropfical : indigestions, the too frequent consequences of lesions of the brain, soon followed, and a *cæliac-passion*, the effect of bad digestions ; from all these causes, the glands of the mesentery soon became obstructed ; the course of the lymph thus impeded, some of the lacteals became unavoidably ruptured, which occasioned this kind of dropsy.

This girl was tapped, and about 7 *Paris* pints of extravasated chyle was drawn from her ; she died in 15 days after, when her bo-

dy was opened, near as much more of the same chyle was found in her belly ; she died in about 4 months from the time of the fall.

A most uncommon Extinction of Voice, 1700.

M. Lemery the father, informed the Academy, that a young woman about 22 years old, and of a good constitution, after an ague was seized with an extinction of voice, which in spite of all means employed for her relief, continued a year and a half ; nothing in all that time cou'd recover her voice, except the *semicupium* ; and even in this, she was hoarse ; but in the hot fit of the ague, she cou'd speak. M. Lemery who had been only consulted about her, ordered such things only as were proper to remove some other complaints she had, but which had no connection with her extinction of voice ; he happened however, by mere chance, to recommend a *tea* of the vulnerary plants of *Switzerland* * ; the patient had no sooner taken of this *tea* than to the great surprize of both herself and those about her, she recovered her voice, and held it for an hour ; by continuing the same *tea*, she so far recovered her voice, as only to lose it towards the evening, especially if she happened to

* Perwinkle, golden-rod, bears-foot, john's-wort, bugle, male-speedwell, lady's-mantle, winter-green, mouse-ear, lesser centory, ground-pine ; these are dried in the shade, and made up into papers of about 16 ounces each, and sold in most towns on the continent.

to expose herself to the night-air; but even then she is quit by taking a cup of her *tea*, either cold or warm. Some were of opinion, that she owed this recovery of her voice to the warm water only; but the patient had often before tried warm water to no purpose. All infusions of plants abounding with acids, even coffee, chocolate, sallad, raw fruit, *soup maigre*, fish, long abstinence took away her voice; flesh meat, on the contrary, wine or milk had not the same effect: wherever she goes, she always carries her *tea* in a bottle in her pocket, whereupon she pleasantly tells every body she carries her voice in her pocket.

M. *Lemery* being consulted the year following in a like case, ordered the same *tea* to two or three women, who received benefit from it; he at the same time confesses, the same *tea* did not succeed so well with others. Time and further experience must determine the circumstances where this *tea* can, or cannot relieve.

In 1719 M. *Lemery* the son, was consulted for an extraordinary extinction of voice in a young woman about 24 years old; this young woman since she was 16 had this extinction of voice; it seizes her at the time of her *menfes*, and holds her for 2 or 3 days; during that time she drinks a ptisanne made *ex rad. gramin.* and *flor. papav. Rhæad.* to soften her chest, which then greatly wants it. This ptisanne

however, avails nothing as to her extinction of voice; for it continues 'till her *menfes* cease, and then her voice returns of itself. Some time after this, she happened to break her arm; this accident and grief she had taken, threw her into violent hysterics; a total suppression of her *menfes* ensued, which by the help of many bleedings in both the foot and arm, vomits and several other things, were recalled; but the consequence was, that she had a continual extinction of voice, in so much, that one cou'd scarce hear her, tho' he had put his ear to her mouth; when she spoke ever so little, she was so fatigued, as to be obliged to leave off speaking; she also complained of a great weight at her stomach, and upon the least motion was near suffocating; all this time she had her *menfes* regularly; however, the above complaints were then greatly aggravated; she seemed in every thing else in very good health; her countenance was florid; her appetite was good; she performed all her other functions well enough; she however, remained in this condition upwards of 3 months, notwithstanding all that cou'd be done for her. At last, M. *Lemery* recollected that his father had with success recommended the vulnerary plants of *Switzerland*, in form of *tea* in a parallel case; this woman had no sooner taken a cup of this *tea*, than she recovered her voice, and that as strong as before her illness; her difficulty of breath-

breathing, and danger of suffocation on the least motion vanished likewise.

There was this further circumstance attending this sudden cure, that the weight at her stomach sensibly fell in an instant down to her navel, where it remained ever after.

As this young woman changed her lodgings some time after, M. Lemery never saw her after, of course heard no more about her.

A fatal Erysipelas in a Lying-in Woman, 1703.

A lady 33 years old, was seized with an *Erysipelas* on her arm, which soon disappeared of itself; from that time she complained of a great oppression and smothering; she at the same time felt so great a cold diffused all over her body, especially in her head, breast and stomach, that the warmest napkins cou'd not bring heat into them; she had even warm bricks, and smoothing irons applied to her so hot, as to burn her skin in some places, without her ever feeling it. She was reduced very low, and had taken many medicines to little purpose; but when intirely despaired of, a periodical sweat broke out, which returned regularly every morning at six o'clock, which restored her to her former health; she was all this time with child; but those salutary sweats happened to stop 3 or 4 months before her reckoning was out; she was safely delivered, but died in a few days after; had those who
had

had the care of her endeavored to recall the former sweats, she might probably have escaped ; this was M. *du Verney* the younger's opinion, who related this case.

A Furor Uterinus happily cured, 1704.

The same M. *du Verney* related the case of a young lady, who upon the breaking off of her marriage with a man she loved, fell first into a deep melancholy, and by degrees into a most violent *furor uterinus* ; for she observed no sort of decency ; she became greatly wasted in her flesh, and had taken many things to little purpose, during 5 or 6 months that she continued in this way ; she was judged irrecoverable when M. *du Verney* was called in ; what first occurred to him was to bathe the *pudenda* with warm water, to allay in some sort their great irritation ; as he perceived this gave her some ease, he continued bathing those parts ; he also ordered an injection to be made of the roots of black hellobore, sharp-pointed dock root, night shade and marsh-mallows, with *saccharum saturni* ; he at the same time had a plaster put on her head, to which he added *saccharum saturni*, castor, opium, and camphor ; the patient found very great benefit from these things ; he purged her after, with *tinctura sacra belleborata*, and gave her morning and evening two spoonfuls of a tincture of black hellebore root, flowers of john's-wort and wild poppies

poppies, made on wine, with the addition of a little brandy; he also gave with this tincture some of the *saccharum saturni*, in a more or less quantity, as the circumstances seemed to require; this young lady recovered in a month or six weeks, and has never had any return of her disorder since.

All hysterics are a lesser kind of *mania*, and only a little more familiar to us; M. du Verney affirms there is not a better medicine in all such cases, than the above tincture; especially when there are no convulsions; he added the *saccharum saturni* only, when they were furious; whenever convulsions accompanied those disorders, he then ordered a tincture of *venus*, made with the volatile spirit of sal-ammoniac, camphorated spirit of wine and *virideæris*. He affirms this takes off the convulsions in an instant; he further advises to purge such patients as early as may be; and recommends the above *tinctura sacra belleborata*, as the best in such cases, especially to women and maidens, labouring under any uterine obstructions.

A poor Woman died, thro' Excess of drinking,
1706.

A poor woman of 45 long accustomed to drink brandy, and those poor wines that grow about *Paris*, became so excessively drunk, that she died in 12 hours after; she was all
this

this time senseless, her face pale, her extremities cold, her chest was greatly oppressed, and she had some convulsive motions, sometimes in one part, sometimes in another, but of short duration ; she likewise had a little fever, which wou'd come and go, without observing any regular period.

M. *Littre* opened her ; he found the blood black, thick and partly coagulated ; the spleen, the *pancreas*, the liver, the lungs, were dried up, and scirrhus ; numbers of the glands, such as those of the *saliva*, *jugulars*, of the spleen, mesentery, the lumbar glands, and those of the exterior part of the head, were both petrified and much bigger than what is natural.

M. *Littre* attributes all these appearances to the excessive quantity of those poor wines, the deceased used to drink ; these wines being greatly loaded with *tartar*, thickened her blood and diminished the diameter of the vessels, by crusting them over, as it does the vessels it is kept in, which prevented both nutrition and perspiration ; the several parts of the body, of course were dried up ; the glands in like manner, must necessarily grow bigger, as the secretion thro' them is no longer performed ; of course all functions, vital and animal, must cease.

M. *Littre* takes here notice of an aph. of *Hippocrates* aphor. 5. SS. 5. where he says, *siquis ebrius ex improviso mutus fiat convulsus moritur,*

ritur, nisi febris corripuerit, aut ubi ad horam, quâ crepulæ solvantur, pervenerit, locutus fuerit.

This woman had a fever, yet she remained speechless; but this is not the only aphorism of *Hippocrates* that does not answer in those our more temperate climates.

Two Men suddenly struck blind, recovered their Sight, 1711.

These men were employed to cleanse a sewer, where they happened to meet with a very old one, which had lain concealed there for many years; upon their opening it, it exhaled so intolerable a stench, that they were suddenly struck blind; one of them lost his sight entirely; the other cou'd discern light from darkness only; however they both soon recovered their sight, by applying to their eyes compresses dipped in the following vulnerary spirit, and taking inwardly every 4 hours 2 spoonfuls of the same*.

M. *Chomel* who related the above history, further adds, that he relieved a deafness, that succeeded a stubborn megrim, and defluction upon the ears, by putting some of the above spirit into the affected ear with a little cotton; he likewise found it serviceable in old megrims,

* Get thyme, mother of thyme, sage, marjoram, rosemary and lavender leaves and flowers as much as you list; macerate them in mead, and distill them after.

which often proceed from a weak stomach, whence crudities ; this warm vulnerary spirit, by warming and bracing up the relaxed fibres of the stomach, mends the digestions, removes the crudities, and by strengthening the nerves, the circulation of the blood and all secretions made from it, are properly carried on ; health is therefore restored.

Some Histories of extraordinary Litbargies,
1713.

A man of about 45 of a robust, dry constitution, by trade a carpenter, happened to quarrel with another carpenter he worked for ; a little while after our sick man heard that his adversary was killed by a fall from a building ; he was so shocked at this news, that he threw himself on the ground ; his spirits and senses were insensibly lulled asleep ; in *April* 1713, he was carried to *La Charite*, where he remained to the *August* following, full 4 months. For the first two months, he gave no signs of voluntary motion or sensation ; his eyes were constantly shut, he often wou'd move his eyelids ; his respiration was free ; his pulse was both small and slow, tho' equal ; when his arm was raised, it wou'd remain raised, as in a *catalepsy*, tho' no other part of his body wou'd do so ; all that supported him during these 2 months, were a few spoonfuls of wine, which he swallowed every day ; he therefore became

became greatly ematiated ; during these first 2 months, he was blooded in both the neck, arm and foot ; had strong ematics, and purges given him, was blistered, had leeches applied, and volatile medicines given him, but all to no other purpose, but to talk sensibly for the space of one day, to his wife and the *friars* of the hospital. He fell after into as profound a sleep as before ; during the last two months he remained in the hospital, he by intervals began to give some signs of sensation, as by squeezing his wife's hand ; at other times by heavy sighs, especially when he had not been purged for some days ; he from this time ceased to do all under him ; he was careful to turn himself to the bed side, where there was an oil-cloth laid on purpose ; and when he had done his occasions, he wou'd return into his place again ; he never gave any signs that he wanted any thing ; however he began to take food ; he still preserved his relish for wine ; at meal-hours they used to touch his lips ; at this signal he wou'd open his mouth, and swallow what they gave him ; and lay still, till they had touched his lips as before ; all this time his eyes remained closed ; when he was taken up, he remained in the same posture without motion, and his eyes shut ; 8 days before he was discharged out of the hospital, they threw him into the cold bath, which surprized him effectually ; he then opened his eyes ; looked earnestly,

R 2

nestly, tho' without speaking a word, his wife took him home after, where he soon came to his senses, and without the help of any medicines, mended every day.

Here is a stumbling block to all vain philosophical reasoners, who pretend to get the mastery of reason in her most hidden ways; they see, admire, search, and yet discover nothing.

M. *Imbert* who related the above history, to account for so surprising a sleepiness, considers, 1st, How sleep in general is produced. 2dly, How grief acts upon the *soul*. Obstructions of the brain, or a relaxation of its vessels, or too great a rarefaction of the blood, from an abuse of spirits, or too great a dissipation of the animal spirits, will induce sleep, wherein the daily wastes of our bodies are repaired; the passions of the *soul* might produce the same effect; sudden grief for example, is known to thicken the blood, so as to suspend the circulation of the blood, and often occasion death; sudden joy, by rarefying the blood too suddenly, has been observed to have the same effect, to occasion death; to apply this to the case before us, this man, a carpenter by profession, a sot by inclination, had so thick blood, that the few active principles it contained were with difficulty disengaged. They were therefore the longer retained in the brain, so that hours of sleep were not sufficient to disentangle them; they required whole months to secrete a necessary

sary quantity to awake him, resembling herein the *marmotte*, who sleeps six months, till his spirits insensibly disengaging themselves, he awakes without any assistance; the six months he is awake, he feeds sufficiently, wastes but little, and by that means lays up a sufficient supply for his 6 sleeping months; something like this might be this man's case; during the first two months, his sleep was profound; some what like the *marmotte*, the following two months, by intervals he gave signs of sensation, till at length, like the *marmotte*, the animal spirits were disengaged from his blood in a sufficient quantity to awake him, and like him awoke, and recovered without any assistance from art.

M. *Homberg* read before the Academy in 1707, a *Dutch* letter, giving an account of a similar case; grief also for 3 months before preceded this sleepiness; the person fell at last into a profound sleep, which held him 6 months successively, without interruption; during which time he gave no signs either of voluntary motion or sensation; at the end of 6 months, he awoke, discoursed with every body that came to see him, but in 24 hours after he fell again asleep, and how long he has continued, is not known, as M. *Homberg* heard no more of him. The carpenter's case falls much short of the Dutchman's; he slept but two months, however the cataleptic state, the
signs

signs he gave of one asleep, and awake, the effects the cold bath had on him, are so many rare peculiarities, as are worthy of attention.

An extraordinary Sleepiness in a Gentleman,
1719.

A Counsellor at *Lausanne* in *Switzerland*, gave orders to his servants to set the press to receive his grapes, for it was vintage-time, he all at once lost his senses; those about him thought he had fallen into an *apoplexy*; he had every thing done for him that is usual in such cases, but all to no purpose; he remained for some weeks in a profound sleep; he wou'd open his eyes, and seemed to look steadfastly at objects, yet it cou'd not be observed whether he really did see, or had any sense; he wou'd take some broth, when given him; all of a sudden, he became restless, wou'd fain rise, but all the while, without any sense, he had after convulsions, which terminated by a plentiful discharge of *pus* from his mouth and nose; his lethargy became the more profound after.

After the art of *Physic* had in vain tried every means, an *Emperic* had the honour of the cure; he applied several cupping glasses to his head; the effect was almost instantaneous; he began to speak; his senses returned after six months sleepiness; the servant who had received his orders about the press, happened to be

be in the way, when he came to his senses. He inquired about the press, as if it was but the morning before he had given his directions about it. M. Crouzas sent the above relation to the Academy.

As extraordinary in a newly married young Woman, 1738.

This woman was married in *April* 1738, the 27th of *June* following, she fell asleep, and slept for 3 days in spite of all endeavors to awake her, she awoke after of herself, called for bread, and in 5 or 6 minutes after, as she was eating her bread, fell fast asleep, and continued asleep for 13 days; during this time she took nothing, nor had any other discharges, save her *menfes*, which were both in quantity and quality as usual; here again, she awoke of herself, called for bread, went to stool, and fell asleep after, where she remained for 9 days. Thus she continued the remainder of 1738, alternately asleep and awake; the longest interval of her being awake was 3 hours, except once after taking an emetic, when she continued awake 24 hours, what became of her after, the Academy did not hear.

An uncommon Instance of a Catalepsis in a Gentlewoman, 1738.

A lady about 45, came to *Besançon* to solicit a law-suit of the last consequence to her; she
went

went only among her lawyers, or to church, to endeavor to interest Heaven in her cause; here she was observed to prostrate herself before every altar. She eat little, and slept less; tho' she had been told, that the court seemed favorable to her cause, yet the evening before the day of hearing she fell into what was believed to be an *apoplexy*. The Physician and Surgeon being called, found her sitting motionless in a chair, with her eyes open and fixed upward; her arms raised, and hands joined, as one in an extasy; her countenance which before was both pale and sorrowful, was now both florid and gay; her breathing was free; her pulse was like that of one asleep; full, and slow; her limbs were supple, and wou'd move, as one wou'd have them, without offering any resistance, and wou'd remain in what posture they were left in; when her chin was pulled down, her mouth remained open; when her arms were raised, they remained so; and let them be put into the most uneasy posture one cou'd think off, they always remained in the situation they were put into; she all this time seemed insensible; they tormented her several ways; put live coals to her feet; bawled into her ears that she gained her cause, she gave no signs of life; Messrs. *Attalin* and *Charles*, both professors of Physic, had her blooded in the foot, and when they came to visit her after supper, they found her recovered

red out of her *cataleptic fit* ; which had held her 3 or 4 hours. She here entertained them with all the circumstances of her law-suit, interspersed with such moral reflections, as naturally arose from her story ; those present did every thing to assure her she wou'd gain her cause ; she was asked whether she had any notion of what had happened unto her ; she said she had seen nothing, but cou'd distinguish the voice of some about her ; yet she never felt the chafing dish of coals under her feet, nor the bleeding in the foot ; tho' she had been tormented all manner of ways, yet she never complained of any pain or lassitude ; while she thus entertained the company, she was observed to interrupt her discourse, to draw a deep sigh, and then her eyes became fixed ; every thing was done to prevent those little fits by reminding her where she left off ; but she never cou'd recover the thread of her discourse, but wou'd begin some other story ; in about an hour after she fell into another *cataleptic fit*, which was as strong as the first ; after it was over, she sitting in her chair, talked of her affairs as before, for an hour and a half good, and after this, she began to speak wildly, she likewise screeched frightfully, and was soon after seized with a violent fever. She was treated by the above Physicians for 3 or 4 days she still remained at *Besançon*, but without any visible relief ; whereupon they advised

to have her carried back to *Vesoul* her native place, where to the surprize of every body, she perfectly recovered, and is still living.

A similar Case still more extraordinary, 1742.

A servant maid at *Montpelier*, about 20, of a pale complexion, and ever complaining of cold in her extremities, of a timorous, tho' fretful disposition, after some grief she took in *March*, was seized with a cataleptic fit ; whatever attitude she was in at the time of seizure, she retain'd it till the fit was over. These fits increasing obliged her to be carried into the hospital, where she was attended by Messrs. *Sauvage* and *Lazermé* ; these fits were various as to their duration, being from half a quarter to three quarters of an hour ; in the months of *April* and *May* 1737, this catalepsy was accompanied with very extraordinary appearances, distinguishable into three visible periods, the beginning and ending cataleptic, the middle lasted a whole day, or from morning till night ; when her cataleptic fit, which often used to hold her 5 or 6 minutes was over, as was always known by her beginning to yawn, she then sat up in her bed, began to talk very fast, and more sensibly than she was known to do in her full health ; she wou'd now often change her discourse, and that pertinently enough, and appear as if she directed her discourse to some friends present ; this was always

ways observed to have some connection with that she held in a fit the day before, or it turned on some moral reflection, which she shrewdly wou'd apply to some of the attendants of the hospital, all this time her eyes were fully open, and yet she was in a most profound sleep, without either motion or feeling, as M. *Sauvage* confirmed by many experiments he made. 1st, By approaching the flame of a *bougie* so near her eye as to burn her eye-brows, she however did not even wink at this. 2dly, He got one to bawl loud into her ear, thump hard at the head of the bed, which at any other time wou'd terrify her greatly ; he besides had some brandy and even spirit of sal-ammoniac put into her eyes, he also thrust his finger into them, had *Havanna* snuff blown into her nose, pins thrust into her flesh, and her fingers twisted, yet all to no purpose, she never gave the least sign of feeling.

While these experiments were making, her discourse (for she all the time continued talking) all of a sudden became more lively ; this was a prelude to a new scene ; she now began to sing and jump, and burst out after into a fit of laughter, endeavoring at the same time to get out of bed, which she at last effected with seemingly great joy ; she now ranged the whole ward, carefully avoiding the beds, chairs, &c. and returned without any difficulty to her own bed, lay down after, and covered

herself, where in a short time she was seized with a cataleptic fit, which in less than one quarter of an hour left her; she then awoke as out of a profound sleep; upon her seeing so many about her, she appeared confused, and cried for the remainder of the day, tho' she had no knowledge of what she did in her fit.

About the end of *May* all the foregoing symptoms left her, tho' it cou'd not be attributed to any effect from medicines; she was blooded once in the arm, often in the foot, and 7 times in the jugulars; she was purged 5 or 6 times after some aperitive apozems she took; she took a stomachic electary made of the bark, cinnabar, *pulvis ad guttutam*, and when the weather was mild, she was bathed 20 times in a bath rather cold than warm; she had after some preparations of *mars* ordered for her, was seemingly restored to her health, but she was far from being so, having returns of her disorder every winter to 1745, with this difference, that it was not now preceded by a cataleptic fit, nor was her want of feeling so great; she was one day seized with a fit on the bridge, where she was observed to speak, as to her own shadow or image she saw in the water; at a fit she had last christmas holy-days, she had some notion of those about her.

This young woman is now so accustomed to her disorder, that all the concern it gives her,

her, is some little confusion ; however, she is not of so pale a complexion, but she still feels the same heat and weight on her head, and on the decline of the fit, complains of a *cardialgia*, which awakes her.

A contagious Purple Fever from Worms, 1715.

This fever raged for some time at *Toul* ; it carried off numbers in 2 or 3 days illness ; the skin of such as had the good fortune to escape, peeled off entirely ; the infection was so great, that no body wou'd venture to open them, several dying by carrying the dead to the grave. What was singular in this fever was, that as many as had been early succour'd, voided worms, the purple spots appearing after ; all these recovered *.

An extraordinary Metastasis of an abscess of the Pleura, 1732.

M. *Chicoyneau* the father, informed the Academy, that he had been called to examine the *Marquis of Serignan's* daughter, a child about 9 years old, who was observed to have her

* There are in phisical writers, many instances of fevers arising from worms ; in 1730. a most violent fever raged at *Befiers*, where most of the sick voided worms, some by the mouth, one woman in particular, voided 22, 6 by the mouth and alive, the rest by the *anus* and dead ; as these worm-fevers are more rife in autumn, than in any other season, this probably is owing to the great quantities of fruit the lower class of the people of *France* eat, living chiefly on them and bread.

her left shoulder higher than the right; the *spine* was a little distorted. When M. *Chicoyneau* had carefully examined the young lady, and found the *scapula* separated 2 fingers breadth from the back, and the *spine* deviating above a finger's breadth, from its natural direction, he had but little hopes of arts being able to redress those parts; accordingly he advised to wait till the age of puberty, in hopes these parts may then redress themselves, as those of ricketty children are known to do; being unwilling to recommend bandages, to constrain the chest in so delicate a body; in about 15 days after this child was seized with a pleurisy, wherein in spite of all that cou'd be done for her, she was judged not to be able to live a few days; but behold *Nature*, when least to be expected, wrought her cure, by evacuating by the *anus* the abscess, that had been formed in the *pleura*; in proportion as this purulent matter was discharged, her hectic and cough abated; by the assistance of a milk diet, intermixed with gentle anodine juleps, she perfectly recovered.

Some Physicians have doubted of the possibility of evacuating an abscess of the lungs or *pleura* by the *anus* or urine. In the case before us, there can be no doubt of an abscess's being formed in the *pleura*; the hectic, cough, difficulty of breathing, the great wasting in her flesh, and her general debility leave no room

room to doubt, as the inspection of the matter discharged must convince every body it was real *pus* or matter that was discharged.

How surprising soever, how unexpected a recovery this was, yet the reduction of the parts into their natural state was still more surprising; it might more naturally be apprehended, that the length of the disorder, where all secretions must more or less be perverted, shou'd rather increase than diminish the deformity; but beyond all expectation, the left *scapula* fell into its own place; the spine became in a great measure, as straight as it shou'd be; in so much that this young lady, to the surprise of every body, not only was restored to her perfect health, but to her shape also.

This case seems to encourage us never to despair in the case of suppurations of the lungs, tho' expectoration might be suppressed; for we see by the above case, that the *pus* may be absorbed, taken up by the returning lymphatic veins, and by the laws of the circulation, thrown upon the larger emunctories, the glands of the bowels, as in the case before us, or by the kidneys, of which there are some instances in phisical writers *.

The

* We find in the *Zodiacus Gallicus*, an. 1. p. 120. an abscess of the *pleura* happily discharged by stool; and another as happily carried off by urine, *ibid.* p. 142. I remember to have attended a gentleman, who in a duel was wounded in the breast by a pistol-ball; the ball had undoubtedly ruptured some of the vessels

The second is, that such displacing of bones as are not owing to some hereditary *discrasia*, or preternatural configuration of the bones, but proceeds from some accidental external cause, is not irremediable, but may be replaced, when those bones come to their natural solidity ; especially if the patient has the good fortune to subdue the primitive efficient cause, as the above young lady had, by discharging the abscess formed in the *pleura*.

An extraordinary Cure of a Maniac, 1734.

M. *Michelotti* Physician at *Venice*, informed the Academy, that a young nobleman of the family of *Schafhouse* in *Switzerland* aged 24, committed great excess at sea ; upon which he became foolish and sometimes mad, during the dog-days in 1733. at his return to *Venice*, he was blooded often in both the arm and foot, and by leeches in the temples, and was kept very low, being allowed the juices only of melons

and vessels in the lungs, for he immediately after spit up clear blood ; but by copious bleeding in the arm, and gentle astringent and balsamic mixtures, this spitting of blood was soon stopped ; the external wound was healing fast ; but in some short time after, the patient began to spit, which was visibly mixed with pus ; the case seemed now a little doubtful ; for tho' the wound promised well, it was apprehended the patient wou'd die tabid : here *Nature* interfered, where there was very little reason to expect it : the patient began to pass very foul urine, which visibly contained *pus* ; he continued passing this kind of urine for upwards of 20 days ; the hectic, spitting and cough gradually disappeared ; and by a proper regimen, and gentle balsamic juleps, he recovered in about 3 months, from the day he received the wound, and is still living.

and almonds cooled in *ice*; he was often put into a very cold bath, where some *ice-water* was suddenly poured on his head.

M. *Michelotti* conjectures that these disorders are owing to the great abundance, and greater agitation of the animal spirits, which now no longer follow their natural channels; the true indication therefore is to diminish the quantity of those spirits; which of course will lessen their impetuosity; both these were effected by the copious bleedings and low diet. The next thing to be done, is to compel those spirits to return to their old channels again, which the cold bath and *ice-water* did, by bracing up those pores they had escaped through.

The event proved he had rightly taken his indication; the lad by the first of *September* was so far recovered as to be able to return to his own country, which probably may agree better with him than the hot climate of *Venice*. He thinks *Hellebor* and all such stimulating things very improper in cases of the kind, by irritating the stomach and nerves, they increase the evil; whereas *opium* and all anodine medicines relax them.

As extraordinary a Cure of a Palsy, 1741.

M. *Gros* Physician at *Arles*, informed the Academy, that he had cured a paralytic in a very short time, by often whipping the paralytic part with nettles.

This method of whipping the part with nettles, has been an ancient practice. *Celsus* recommends it for the palsy, and calls it *urticatio* *, he also recommends mustard-seed bruised, and applied to the part, this is his *sinapismus*. *Rolfinicus*, a German Physician, recommends the same *urticatio* †.

A Palsy attended with very singular Circumstances, 1742.

M. de Lafone of the Faculty of *Paris* informed the Academy, that a woman about 32, upon taking grief, had her menses suppressed, but upon using the proper means, these were recalled; the patient upon a like occasion, complained of a weight and pain in her head, her nerves became greatly affected; she had an universal tremor on her; almost all sense of feeling as well as motion were abolished; tho' both her reason and pulse were no way affected. Her speech likewise was free.

This kind of palsy, together with the weight on her head disappeared by degrees; yet the disorder seemed to affect different parts of the brain, as well as such parts of the body as by means of the nerves corresponded with those parts of the brain. At one time she wou'd complain of a pain in the top of the head; then her sight was affected; the pain seemed to shift its place, without her being able to ascertain

* *Cels.* l. 3. c. 27.

† *Rolf.* ordo et method. special. p. 29

tain the part, and then her sight returned ; but her eyes were without motion ; a few days after, she wou'd lose her sight again, and then her tongue became paralytic, and the *saliva* ran involuntarily out of her mouth ; these symptoms wou'd soon disappear, and then the pain wou'd seize the middle of the occipital bone, and hold her 4 or 5 days, accompanied with sickness at heart, and palpitations ; these again wou'd disappear ; the pain wou'd remove lower down, towards the neck ; then both her arms became paralytic ; the pain wou'd here again shift to the right parietal bone ; the right arm wou'd now recover its motion, the left still remaining paralytic, in some time after, the pain shifted to the fore-part of the same parietal bone, and now the patient perceived a kind of numbness in her back bone, after this she lost the use of her left thigh and foot ; which like the superior extremity of the same side, remained paralytic ; these parts however were as sensible of the vicissitudes of heat and cold, and were as sensible when they were pricked, as the other parts that were not paralytically affected. At length, the head-ach increasing, the pulse became feeble, and after languishing for 15 days, she died. Upon opening her head, there were found two superficial, uneven, callous tumors 5 lines in diameter, which seemed to press upon the medullary substance, supposed to be the origin of the nerves ; these tumors

corresponded with the parts of the parietal bone, where the pain was; there was a good deal of *serum* in the ventricles of the brain; the *cerebellum* appeared of a firmer consistence than usual.

All this does but confirm what has been often before observed, that by compressing certain parts of the brain, those parts that receive their nerves from it, become paralytic; it has likewise been before taken notice of, that a compression on the right side of the brain, wou'd render the left side palalytic. See vol. i. p. 42. See also vol. iii. p. 86 *et seq.*

Some very uncommon Palsies, where motion remained, tho' every sense of Feeling was lost,
1743.

A *Swiss* soldier in Col. *Seedorf's* regiment quartered in *Doway*, aged about 32, was received into the hospital there in *December* 1730, for an ague, accompanied with a troublesome catarrh, which greatly wasted him; he was cured of both, and discharged out of the hospital at the month's end. About the first of *January* following, he complained of an acute pain in the bend of his arm, which continued with the same violence for 3 days, and then entirely left him; about 4 or 5 days after, he was seized with the like acute pain in the shoulder of the same side, which held him without intermission for 5 days.

After

After this, some watery blisters appeared in the palm of the hand, which soon after broke, and discharged a good deal of a clear water without any bad smell; about this time, the end of *January* 1731, he first began to perceive, he sensibly lost all feeling in all this arm, and hand.

About the beginning of *May* following, all his hand, fore-arm, and arm were covered with a considerable *tetter*, which discharged for all that month a great quantity of fetid matter, he was cured likewise of this *tetter*; but his arm and hand remained without any feeling. He happened without thought to take off the cover of a stove, that was almost red hot, he however laid it down as unconcerned as if it had been cold. By this accident he lost 2 of his fingers without his ever complaining of any pain, or making a wry-face when they were cut off; yet what is very extraordinary, this man goes thro' all his evolutions as well as any other man in the regiment.

Willis and *Juncker* take notice of some similar cases, which seem to confirm the opinion of those, who advance that there are nerves for feeling distinct from those for motion.

A similar case full as Extraordinary, ibid.

Doctor *Garcin* who is the person here concerned, writes to M. *Reaumur* that he enjoys the free use of his right hand, but has no manner

manner of feeling in it; he says I am obliged to be as watchful where I put my hand as a nurse is attentive about her child; he happened to put his hand too near a stove to warm it, and burned unknown to him his thumb; nor did he perceive it till two days after by a large blister that had risen; he is ever since obliged to take care, never to touch any thing in the dark, or that he does not see, otherwise he wou'd frequently hurt or wound his fingers; he never knows whether they are hot or cold, but by putting them on his face; he perceived they were more affected with the heat of the fire, placed at a greater distance than they were formerly and in their natural state.

The *Touch* or sense of feeling is that great and salutary means, *Providence* has benevolently endued every fibre of a human body with, to protect it from numberless external injuries man is continually exposed to; no other but one deprived of this blessing, can conceive how many inconveniences attend the want of this sense of feeling, and which all human sagacity cannot prevent; the learned Doctor confesses, that notwithstanding all his care, he suffers often from his want of feeling.

An

An Account of the epidemic Diseases that reigned in Paris and in the Environs, during the years 1746, 47, 48, 49, and 1750 inclusive. Also the Bills of Mortality, the Number of Marriages and Christenings within that Period.

Observation, undoubtedly, is the best method to acquire natural knowledge; works of the greatest brilliancy, such as require the deepest penetration, as well as the greatest delicacy of wit, are not near so useful to mankind, as observations of the temperature of the air, the variation in the weight of the atmosphere, an exact account of the *meteors*, thunder, winds and rain, of the heat and cold, dryness and moisture of air, that happen in each season of the year, in each month and day of the month. A constant comparison of all those and their vicissitudes, with the temperature of the air, the health and sickness of the people made with care for several years, in every country, wou'd infallibly be ultimately productive of a more thorough knowledge of agriculture, to raise and protect the fruits of the earth, and at the same time, render the *healing art* more certain, of course more successful.

Every body must be sensible how useful the observation of all those *phenomena*, and an inquiry into their causes and effects must be to
man-

mankind, in preserving as well as prolonging their lives.

The Royal Academy shewed always more countenance to observations than to the finest reasonings destitute of observation; thus we find, that as early as 1688, it directed one of its members to keep an exact account of the variations in the temperature of the air, the quantity of rain that fell in each month, and at the end of every year to publish from his registers *meteorological tables*, well knowing how great an influence the vicissitudes of the seasons have on all organized bodies; these tables have been continued ever since.

The Academy always attentive to promote useful knowledge, and willing to render those observations of more general use, appointed M. du Hamel, one of its members to make *Botanico-meteorological tables*, to discover what influence the different temperatures of the air might have on the fruits of earth; for it is certain, the soundness of the fruits of the earth contribute full as much towards the preserving as well as restoring the health of all organized bodies, as even the due temperature of the air; those observations have already contributed greatly to the improvement of husbandry and natural history.

But as all those several observations were primarily intended for the general use and benefit of mankind, the Royal Academy in

1746, encouraged the making the like observations in a medical way, in order to discover how far the sensible changes in the temperature of the air, the vicissitudes in the seasons of the year, were productive of the different maladies, that are observed chiefly to reign in those seasons, or how far the same were capable of influencing the symptoms that accompany those maladies. And indeed, whoever purposes to improve the *healing art*, must set out with observation, the only solid foundation to build medical knowledge on ; it was upon this foundation that the divine *Hippocrates* built his system, which has stood the test of ages, while those of his cotemporaries have been long since buried in oblivion ; and why this *noble art* has not before now arrived at the highest perfection any human science is capable of, will upon inquiry, be found to be owing to his successors forsaking the beaten road he traced for them, *Observation*, to follow *hypotheses*, and other vain speculations, the precariousness of which has but too evidently served to render this *useful art* uncertain, fluctuating and fallacious, fit only to bewilder us, and to create disputes among the professors of it, which tho' unjustly, hath cast an almost indelible reproach on the *art itself*, as if it had no certain rules of its own, but that the cure of the sick depended on chance alone.

No Physician was ever known to exceed *Hippocrates*, because no Physician observed so much; with what surprising exactness has he observed what preceded and accompanied diseases! by a close and diligent observation into the rise and progress of diseases, and how *unassisted Nature* terminated them, he discovered this true and invariable maxim, that *Nature is the healer, and the Physician her hand-maid, who succours her in due season, and supplies her with the proper means, both to encounter and subdue her enemy.*

It was by observation he discovered, that some diseases have certain, constant and individual symptoms, and others that are adventitious or casual, and common to other diseases; the former depend on the constant, identical nature of the disease; the latter on the different treatment of the disorder, the perverseness or irregularity of the patient, the mismanagement of his friends or officious attendants about him, and various other causes, proceeding from the bodies surrounding us.

Had therefore succeeding Physicians continued to make the like observations on the rise and progress of diseases, and carefully attended to the variations in the temperature of the air, the changes in its sensible qualities, as to heat and cold, dryness and moisture, the influence *meteors*, thunder, lightening and rain, have on us, and diligently set down the reigning

ing winds in each season of the year, in each month, and day of the month, and considered well, and compared the effects those general causes had on the body in sickness as well as in health, the *healing art* might at this day be upon as good a footing, as to rules and principles, as any of the *sister-sciences*. Physicians wou'd now not only be able to foretel, but also often to prevent the return of epidemic diseases; and whenever their return is unavoidable, the first seized wou'd not be in so much danger of dying, as is but too often the case; the candid and honest *Sydenham* confesses he has lost a patient or two, before he cou'd thoroughly discover the true nature and *Genius* of the disease *.

It was with this view, to bring us back to the making observations, that M. *Malouin* began in 1746, his medical register of the several epidemic diseases reigning in *Paris*, and the *Environs*; the plan he goes upon is this; first, he observes the temperature of the air in each season, month, and day of the month, he sets down after the reigning diseases of each month, the number of burials, births and marriages in each month, distinguishing the males from the females, whereby he discovered, that the proportion of the males to the females, one year with another, was as 18 to 17. This agrees exactly with a like computa-

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* De Morb. acut. § 1. c. 2.

tion of 82 years made in *London*, and with another of 30 years made in the Parish of *St. Sulpice* in *Paris*, where the males were to the females as 24 to 23. In some seasons there are more males seized with epidemic diseases, than females and *vice versa*.

It is observed that more males die in *March* than in any other month, but that more males are born in the same month, as if *Nature* intended thereby to repair the loss of so many males; again, fewer women die in *December*, and there are also fewer births this month, but in *February* more females are born than in any other month.

January 1746, the air was both raw and moist all this month, the 15th was the coldest day; the thermometer was this day at 5 deg. below freezing; the barometer was mostly at $27\frac{1}{2}$, and the wind southerly.

An epidemic quinsy, seizing children only, made its first appearance in *Paris*; it was very different from the quinsies of former years; this *quinsy* was often without either pain, or difficulty of swallowing, or tumor, external or internal. When the seat of the disorder was in the *œsophagus*, the patient had then a little difficulty to swallow; but when seated in the *trachæa*, the patient cou'd swallow easy enough, but the disorder was the more dangerous.

The breathing was free in most of the sick,
but

but they all were hoarse ; the fever was never proportionable to the greatness of the disorder, and very often it became imperceptible, even when every thing seemed at the worst ; when the sick seemed to approach near their end, they wou'd then often amuse themselves, after their usual manner, to within a few hours of their death, which commonly happened between the 3d and 5th day, and almost always before the 7th. 'This disorder never terminated before the patient had thrown off some portions of the inner membrane of the *trachæa* ; such as out-lived the 7th, used to spit up both *pus*, and portions of this membrane, and died after consumptive ; the *pus* was soon communicated from the *trachæa* to the lungs, which as soon corrupted them, as was discovered, upon opening the bodies of those who died ; in some, the disorder had extended itself even to the nose.

Severinus makes mention of the like epidemic quinsy that seized the children at *Naples* in 1618, and continued off and on, 'till 1644. There was this remarkable circumstance attending the epidemic quinsy of both *Naples* and *Paris*, that the distemper of the horned cattle preceded both ; *hunc an. 1618 in nostram gentem antecessit boum annua lues, qua mirum in modum strangulati concidebant.* The distemper among the horned cattle in *France* preceded this epidemic quinsy ; there was this fur-

further singularity attending both, A comet preceded that of *Naples*, as it did that of *Paris*, which some *Italians* then considered as the cause of this epidemic; but such influence of those heavenly bodies on us, is now universally exploded.

It's first appearance in *France* was in 1743, in the following years it visited most countries in *Europe*; such as were first seized died, tho' they had been succoured as early as cou'd be; for neither scarifications of the tonsils, nor even the extirpation of the affected parts availed any thing.

Both *Severinus* and *Tho. Bartholin*, who treated for the space of 20 years this disorder in *Italy*, recommend bleeding in the jugulars, and to give emetics and diaphoretics after; but the bleeding of the jugular was not observed in *Paris* to be attended with more or better success than that of the arm or foot; its here to be considered, that the epidemic quinsy of *Naples* was complicated with a hemorrhage of the nose, whereas that of *Paris* had not that symptom 'till 1748.

The height the rain rose to this month, was 1 inch, 3 lin.

Burials this month 1510, males 777, females 733.

Legitimate	} Births	1598, boys 833, girls 765.	} total
Illegitimate		266, boys 128, girls 138.	

Marriages 445.

February was less wet but more cold than *January*; the 15th the wind was N. E. the ther-

thermometer was $7\frac{3}{4}$ deg. below the freezing point, the barometer was for the most part at $27\frac{1}{2}$. the wind was mostly southerly.

The reigning diseases were catarrhs, and pleurifies; the same were observed at *Orleans*, about 30 leagues to the southward of *Paris*; it was here remarkable, that the stich was mostly in the left side, which after the bleeding removed to the wrist of the arm, the blood was drawn from, which was always opposite to the stich; this pain was attended with a swelling on the back of the hand; but both disappeared in 30 hours; the same stich in women removed to the head; especially, if they were near the time of their periodical evacuations; the pulse became quick and irregular, they were delirious, but had this particular circumstance attending them, that they wou'd make pertinent answers to such questions as were asked them, but the instant one left off speaking to them, they began again to talk incoherently.

The height of the rain was $4\frac{4}{8}$ lin.

Burials 1534, males 781, females 753.

Legitimate	} Births	1658, boys 805, girls 853.	} total
Illegitimate		280, boys 155, girls 125.	
Marriages		718.	

March was rather wet than dry, there fell a great deal of snow and rain, the wind was high all this month, and mostly from the south-west. The thermometer was the 11th at

at 5 below freezing, the wind blew violently from the N. this day, which brought some gouty rheumatisms, which lasted all the month; towards the end, the weather was fine; 25th, fogs at night, some apoplexies were seen; 30th, thunder, lightening and a great deal of rain.

Some double tertians were observed, accompanied with bilious fluxes, which did not seem to relieve as is usual in other cases, nor was the patient the worse when they stopped; it was observable, that this fever wou'd seem cured for two days, and then return, without the patient's giving it any occasion; this is the true characteristic of epidemic diseases, such as *Ballonius* describes that of *Paris* in 1575 to be, and *Hippocrates* had described before him in his epidemics.

The rain rose to 1 inch, $2\frac{2}{3}$ lin.

Burials 1917, males 1029, females 888.

Legitimate	} Births	1693, boys 874, girls 819.	} total
Illegitimate		276, boys 142, girls 134.	
Marriages		104.	

The winter of 1746 was very fatal to lying-in women, most of them were troubled with fluxes during this time; besides, they had their *lochia* very sparingly and not of a natural color; the breasts, which about the 3d or 4th day shou'd swell, became rather flaccid, the abdomen became then both hard and painful; all these died between the 5th and 7th day of their lying-in.

It

It was the poor only that suffered, and such as lay in the hospital more than those who lay in in their own houses. Of twenty that lay in in *February* in the *Hotel Dieu*, scarce one recovered; it was not so mortal during the remainder of the winter. Upon opening them, a coagulated milk was found on the exterior surface of the intestines, and a milky *serum* extravasated in the cavities of the *abdomen* and *thorax*; upon making an incision in the lungs, a milky putrid *serum* was seen to issue forth; the stomach, intestines and womb appeared inflamed; in the *ovaria* of some of them, trusses of hair matted by the fat were found, these formed a kind of *steatoma*; the same has been often before found in the *ovaria*; what seemed to bring those poor women most relief were diluting aperient draughts, and *Venice treacle* given in the beginning.

April. Tho' it rained the most part of this month, yet the weather was very mild, the wind being mostly southerly all the time, except the 14th and 22d; the 14th. the wind was N. E. the thermometer was this day 1 deg. $\frac{1}{4}$ below freezing.

There were a great many apoplexies and sudden deaths, some remained stupid, or otherwise greatly disordered in their heads, especially if the apoplectic fit was not succeeded by a palsy; *Ballonius* observed the same in 1576, during which time the temperature of the air

was nearly the same as it was this year 1746 in *Paris*.

There were besides several defluxions on the ears, and glands of the *fauces*, and *Rheums*; it was observable that purging did much better than bleeding in those peripneumonies.

There were intermittent fevers of all kinds, which were observed to partake of the nature of the catarrhal fevers of the winter; such as had a spontaneous vomiting, were all at once relieved.

The height the rain rose to was 5 lin. $\frac{2}{3}$ only.

Burials 1758, males 942. females 816.

Legitimate	} Births	1594.	boys 778.	girls 816	} total
Illegitimate		315.	boys 154.	girls 161	
Marriages		240.			

May. The air from moist became suddenly dry and warm, which put an end to the catarrhal fevers; but such as began before the above change, became very stubborn, and worse, upon bleeding; the cough increasing, they spit the more.

By the observations of M. *Bouillet*, those rheums were more epidemic at *Besiers* in *Languedoc* than even in *Paris*.

There were some pleurifies this month, complicated with a putrid fever; the pleuritic symptoms ceased generally about the 7th; those of the malignant began then to manifest themselves in *deliriums*, drowfiness, convulsive motions; the blood drawn from the sick was blackish

blackish, wou'd not coagulate, when cold, nor did the *serum* separate from it; it became rather like a kind of gelly and when pour'd from one vessel into another, it looked like lees of wine.

The rain rose but to 10 lin. $\frac{3}{8}$.

Burials in *May* 1718. males 917. females 864.

Legitimate	} Births	1614.	boys 807.	girls 807	} total
Illegitimate		313.	boys 155.	girls 158	
Marriages		342.			

June was colder than *May*; there also fell more rain in *June* than in *May*, tho' *May* was moist: the wind was very violent all this month, tho' it was southerly, yet it was colder than when the N. and N. E. winds used to blow in the same month; the 17th it hailed, tho' the wind blew that day from the south; the remainder of the month the wind was either S. or S. W. and it either rained or hailed all that time.

There were a great many rheums, defluxions, complaints of great lassitude; some were seized with a fever, which ended by one fit, but that fit generally held some for 3 or 4 days, during which time some bled at the nose; but all complained of a violent pain in the head; this fever if ill treated, or if the patient had not observed a proper regimen, easily degenerated into a malignant one.

M. *Mulcaille*, Phisician at *Pluviers* (about 20 leagues S. E. of *Paris*), observed that several, who recovered out of those malignant

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fevers, remained for a considerable time after weak in their understandings.

The rain rose to 1. inch 11 lin. $\frac{2}{6}$.

Burials 1436, males 723. females 713.

Legitimate	} Births	1359.	boys 704.	girls 655	} total
Illegitimate		259.	boys 144.	girls 115	
Marriages		348.			

July was moister than usual ; there was as great a moisture in the houses on the 5th as there is commonly upon a thaw in winter ; the sky in *July* was often cloudy, the wind was mostly southerly ; the 15th was the hottest day of this month ; and yet the wind blew from the north ; there were as great dews this month as we generally have in *May*.

The chief disorders in this month were either cutaneous or such as pushed for the skin, such as scarlet and miliary fevers, seizing mostly children, especially such as had the *measles* this year ; towards the end of the month, there were some rheumatisms and sciatics ; the blood drawn from them was like pleuritic blood.

The rain rose to 2 inches 2 lin. $\frac{3}{6}$.

Burials 1299, males 696. females 603.

Legitimate	} Births	1453.	boys 750.	girls 703	} total
Illegitimate		259.	boys 136.	girls 123	
Marriages		309.			

August the weather was more even, and there were fewer sick in this, than in any other month of the year ; the barometer stood almost the whole month at 27. 11. the wind was mostly northerly.

In

In the beginning of *August* there were some *fluxes*, accompanied with pain in the bowels, and *tremors*, which the patient fancied proceeded from the heart; these *tremors* were very different from what we call palpitations of the heart, they were more properly affections of the upper orifice of the stomach; those *tremors* returned regularly and at night.

It was observable that upon a spontaneous *flux* of the belly, those *tremors* wou'd disappear, and that such as had a *flux* were sure to be seized with those *tremors*, whenever the *flux* was stopped; from whence it is very probable, that what caused the *tremors* in one, the pains in the bowels in others, and the *flux* in most, was one and the same cause in all; this is further countenanced by this, that purges cured equally the above 3 disorders; towards the end of *August* the weather became less warm, we had then some tertian and quotidian fevers, which soon gave way to bleeding and purging; the tertians were more stubborn, often became double tertians, the patient in the fit became lethargic, especially if of a cacochemical and plethoric habit, which obliged the Physician to give the bark early to prevent that alarming symptom.

The rain rose to 2 inches 2 lin. $\frac{1}{8}$.

Burials 1265 males 635. females 630.

Legitimate	} Births	1584. boys 787. girls 797	} total
Illegitimate		272. boys 145. girls 127	
Marriages 341.			

Septem-

September was drier, and warmer than usual, there were more fluxes and dysenteries in this than in the last month.

All kinds of fevers, quartans, tertians, double tertians, quotidian and continual fevers, among which were some malignant ones, and some *ephemeræ*, which lasted 60 hours.

About the middle of the month, the wind coming from the south, brought some peripneumonies, which easily gave way to the usual treatment; but towards the end the wind blew with violence from the north upon which some rheums and erysipelas's of the face were seen.

The height the rain rose was 1 inch $\frac{4}{8}$ lin.

Burials 1284, males 679. females 605.

Legitimate	} Births	1511. boys 751. girls 760	} total
Illegitimate		251. boys 115. girls 136	

Marriages 396.

October set in cold, which became the more sensible, as *September* happened to be warmer than usual; besides, the wind blew often from the north, which rendered the air rather dry than moist.

The *rheums* of the preceding month became now more common, but the reigning disorders in *October* were of the intermittent kind, either tertians or double tertians; some of those degenerated into continual fevers, and were judged at last by some cutaneous pimples, or abscesses.

Towards

Towards the end of *October*, there were some fluxes and dysenteries, the principal symptom accompanying them was a *tenesmus*.

The depth of the rain was 5 lin. $\frac{1}{8}$ only.

Burials 1349, males 708. females 641.

Legitimate	} Births	1655.	boys 869.	girls 786	} total
Illegitimate		306.	boys 147.	girls 159	

Marriages 359.

November was drier than usual ; there was however some foggy weather, tho' these were not cold.

Catarrhs were the reigning epidemic this month, producing in some rheums, peripneumonies in others, fluxes in others.

Those catarrhal fevers were complicated with wandering pains, which made it evident that the humor, which occasioned those pains was the same, that in *October* pushed so much for the skin, by either sweats, or pimpled eruptions ; what seems to countenance this conjecture is, that these same wandering pains disappeared, as soon as the matter was thrown upon the skin.

Ballonius observed the same in 1575, wherein the epidemics that then reigned in *Paris* were the same that now reigned in 1746.

Some of the malignant double tertians of the preceding month were still to be seen, and there were some truly malignant fevers, wherein the blood drawn was like pleuritic blood, a
manifest

manifest sign, that it retained some of its primitive catarrhal nature; the blood drawn in malignant fevers, when not complicated with the scurvy or catarrhs, is commonly red and dry.

The depth of the rain was 10 lin. $\frac{3}{8}$ only.

Burials 1379. males 732. females 647.

Legitimate	} Births	1378. boys 765. girls 613	} total
Illegitimate		255. boys 127. girls 128	
Marriages		478.	

December in the beginning was rather wet, tho' there was frost at nights, and a warm sun by day; the wind was now north west the reigning epidemics this month were pleurifies, complicated with pains in the bowels.

The 11th the wind changed to the south, the weather was no longer fine, the air became moist, and the atmosphere was overcast for several days; during this time the sick were observed to be worse; there were likewise some apoplexies, some were stupid, others complained of head-achs.

The 26th the wind changed to the north, several complained of wandering pains, others of inflammatory catarrhs.

Tho' there fell more rain the last days of *December* than before or during the same, yet the air was moister in the beginning than at the latter end of *December*; dryness and moisture depend more upon the nature of the wind than

than on the quantity of rain that falls during the same time.

The depth of the rain 1 in. $2 \frac{1}{8}$ lin.

Burials 1313. males 701. females 612.

Legitimate	} Births	1250. boys 640. girls 610	} total
Illegitimate		230. boys 129. girls 101	
Marriages		66.	

The year 1746 was in the general rather wet than dry, the wind blew mostly this year from the south, and was less warm than usual; the wind for the 6 last months blew from the north; it was not near so dry as usual.

For the first 6 months the disorders affected mostly the head, whereas for the last 6 months, they were observed to go off, either by sweats, or some cutaneous eruptions.

The measles did not go off this year in two days, as they used to do; they lasted 5 days, before they went quite off.

There were some small-poxes, more in the *Environs* than in *Paris*; and were more of the confluent than discrete kind, but pretty favorable.

In the general, purgatives were observed to be attended with better success than bleedings; *Ballonius* observed the same thing in 1575; he further adds, that the women were mostly seized with the epidemics of 1575, whereas the epidemics of 1746 were peculiar to women only.

manifest sign, that it retained some of its primitive catarrhal nature; the blood drawn in malignant fevers, when not complicated with the scurvy or catarrhs, is commonly red and dry.

The depth of the rain was 10 lin. $\frac{3}{8}$ only.

Burials 1379. males 732. females 647.

Legitimate	} Births	1378. boys 765. girls 613	} total
Illegitimate		255. boys 127. girls 128	
Marriages		478.	

December in the beginning was rather wet, tho' there was frost at nights, and a warm sun by day; the wind was now north west the reigning epidemics this month were pleurifies, complicated with pains in the bowels.

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than on the quantity of rain that falls during the same time.

The depth of the rain 1 in. $2\frac{1}{2}$ lin.

Burials 1313. males 701. females 612.

Legitimate	} Births	1250. boys 640. girls 610	} total	
Illegitimate		230. boys 129. girls 101		} 1480.
Marriages		66.		

The year 1746 was in the general rather wet than dry, the wind blew mostly this year from the south, and was less warm than usual; the wind for the 6 last months blew from the north; it was not near so dry as usual.

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There died more in the first 6 than in the last 6 months, and there were more births in the first 6 than in the last 6 months.

Total of rain in 1746, 14 inch. 5 lin. $\frac{1}{6}$.
 Burials, 18051, males 9418, females 8633.
 Legitimate } Births 21629. boys 11040. girls 10589.
 Illegitimate } 3282.
 Marriages 4146.

N. B. As M. *du Hamel* generally ends his *botanico-meteorological tables* with an account of the epidemics of the country he mostly resides in *Gatinois*, it was thought proper to make extracts from his registers, from the affinity they bear to those of *Paris*.

M. *du Hamel* observes that in 1742, there was plenty of fruits of all kinds, yet there were never fewer sick than in autumn, whereas in 1744, when there was little or no fruit, and besides, the common people had plenty of good bread, and legums, there were in autumn a prodigious number of fluxes and dysenteries; however the months of *November* and *December* of 1744, were pretty healthy.

In the spring of 1745, malignant fevers were very rife in *Gatinois*, (about 20 leagues to the south-east of *Paris*) some parishes, who had 500 communicants buried 90 heads of families, but happily this epidemic did not communicate to the neighbouring villages. There was scarce any sick in either the summer or autumn.

In

In 1746, the spring was remarkable for epidemic rheums, and July for quinries, and autumn for fluxes, which in the beginning killed several; and as neither *ipeacucana*, *simarouba* nor any other known medicine had any effect, they employed the *vitrum ceratum antimonii*, as directed in the *Edinburgh Medical Essays*, which was attended with the desired success; at the dose of 8 or 10 grains, it scarce vomited the patient, but then it considerably increased the dejections, which were at first serous, and in about 8 or 10 hours, they became of a better consistence, which was a prelude to the cure.

M. Arnaud King's Physician at Orleans, communicated to M. du Hamel the following register of the epidemics, that reigned in the city of Orleans, and its suburbs, beginning with June 1745.

June. From the beginning to the 15th it constantly rained, from thence to the end of the month, the weather was variable, the wind changing from west to north-N. E.

Several from the beginning of this month, were seized with wandering rheumatic pains, with exacerbations in the evening; those easily gave way to a sudorific ptisanne, rendered purgative; but towards the end of the month, the defluxions were accompanied with erysipelatous and other cutaneous eruptions. As the *primæ viæ* seemed loaded with crudities,

ties, bleeding was not much insisted on, but the above purgative and sudorific ptisanne removed all those disorders.

July. The weather to the 12th was rainy, the wind always at west; from the 12th to the end of the month the wind was north-N. E. which rendered the weather so cold, as to make fires necessary; the barometer stood at $27\frac{1}{2}$.

There were some benign measles and small-poxes, some scarlet fevers, which were no way dangerous, but yielded to the usual treatment; several were seized with pleurifies and peripneumonies, of which many died, as did many weak consumptive persons, who were not able to support the great relaxation their lungs now suffered; the cutaneous eruptions of the preceding month were rather more stubborn, and accompanied with the colic; bleeding, purging and the chalybeat waters relieved many.

August. The weather continued both cold and wet to the 15th, both pleurifies and peripneumonies were very rife and mortal, the *Erethism* and burning heat calling for copious and repeated bleedings.

There were from the beginning some legitimate tertians, attended with violent headaches, proceeding from the *cacochylia* of the *primæ viæ*, as appeared by those fevers being
taken

taken off, by emptying them, without the assistance of the bark.

Several women were afflicted with habitual uterine discharges, who were greatly relieved by the *vitrum ceratum antimonii*; it was as effectual in inveterate dysenteries, which reigned at the same time.

The *chin-cough* was now very rife, seizing not only children, but adults also; nor wou'd it give way to purgatives, as it did in other seasons; these required now to be intermixed with pectorals; there were some rheumatisms, but without a fever; what answered best here was a decoction of the woods rendered purgative.

This month was very fatal to lying-in women; nor was it easy to discover the cause, because the Physician was never called in, till the Surgeon *accoucheur* had exhausted all his skill; and then it was too late.

September. The wind from the beginning was at north, the weather was rather warm, the barometer stood at $27\frac{1}{2}$.

The intermittents were now seen, the dysentery began to be more common, and the *chin-cough* was more violent; but the rheumatic and cutaneous disorders were fewer; the weather turned to rain the 15th for two days, but the wind returned to the north, which rendered the weather fair and dry.

The

The dysentery began now to spread in the *Environs*, however, none but the common people were seized with it; they were all treated with the *vitrum ceratum*; 6 or 8 grains were mixed with a little conserve of roses, and a *paragoric* at night, observing to repeat it, but every second day; not one of 50 who took it died; it seldom required more than a 4th dose to compleat a cure.

As M. *Arnaud* observed, that it irritated a good deal, when given too early, without any preceding diluting draughts, he therefore ordered some emollient clysters to be thrown up, and diluting anodyne draughts to be taken, before he gave it; there often remained some griping pains after the dysentery was stopped; he took off those pains by a *bolus* of half a dram of *theriaca* or *electar. e scordio*, made up with 5 or 6 drops of the *tinctura thebaiaca*; this *bolus* repeated for a few nights compleated the cure.

October was during the whole both fair and dry, it however was sickly enough, several being seized with malignant fevers; the symptoms accompanying them were extreme great weakneses, a small pulse, a general relaxation of the solids, anomalous exacerbations, resembling those of a double tertian, the tongue dry and black, yet little or no thirst; the head was engaged, the abdomen puffed up; few bleedings were employed, nor had the

the clysters and purgatives so good an effect as blisters, however several died of this fever.

The measles were rife among children, but no way dangerous; they were purged two or three times, if the cough still remained; there were some apoplexies, those who were let blood at first, died, but when they had first taken a puke, the bleeding after relieved a great many; it was here observable, that all the disorders of this year proceeded from the *cacochylia* of the *primæ viæ*; the emptying of which was now the first and chief indication.

The dysentery still prevailed, but none who had been succour'd early died; *ipecacuana* was quite laid aside, the *vitrum ceratum* was attended with the desired success, is easily prepared, and costs little.

November. The weather was changeable to the 15th, with rain regularly every day, the barometer was either low, or rising from 27 to 28; both the measles and dysenteries still kept their ground, tho' not so common; such children as were not sufficiently purged after the *measles*, were afflicted with defluxions on their eyes, and scabs on their face, and other cutaneous eruptions, which with difficulty gave way to purges, here too long deferred; others complained of pain in making water; by the use of linseed tea and marsh-mallows, and a few

few doses of manna, these complaints were removed.

December was pretty fair in the beginning, tho' there were some foggs, morning and evening; from the 15th. to the end, it rained a good deal, and the air was always covered; the barometer stood at $27\frac{1}{2}$.

The measles gave way to wandering rheumatic aches, accompanied with a fever; the patients complained of heat in their urine, and an itching all over their body, which gave them no rest; others in a day or two after had erysipelatous eruptions, wherein the *cuticula* on the *thorax* and back was raised into blisters, full of a reddish *serum*, not unlike the blisters, after a burn; those blisters in a few days became white, burst, and suppurated, then dried and scaled off after; the treatment they best bore was one or more bleedings, according to the violence of their disorder, or as the skin appeared red; over the blisters cateplasms of boiled bread and milk, some of them were only stuped with elder flowers boiled in milk; diluting ptisannes were ordered, and repeated purges carried off the disorder. None died of this disorder; but as it was observed that old people had some faintings, which threatened death, they had issues cut in them, to help to depurate the blood, by which means, and some sweeteners, they were put past all danger.

M. Ma-

M. *Malouin* continuing his observations on epidemics in 1747, considers the air as the principal cause of the health of all organized bodies. *Hippocrates*, he adds, was so well apprized of this, that he looked upon the air to be the promoter of life and health. Man, says he, begins to live, the instant he takes in air, and ceases to live, when he no longer can take in air *.

Air therefore, being so absolutely necessary for all animals, the changes and alterations it suffers in its sensible qualities, in its heat and cold, moisture and dryness, in its elasticity and weight, must necessarily affect us; for it is now well known, that air makes a considerable part of all the fluids in all organized bodies; and as air is allowed to be the cause of the elasticity of all bodies, it naturally follows, that whenever the spring of the air is changed, is either increased or diminished, the animal tubes together with the fluids circulating thro' them, must be necessarily affected; for when the external air loses of its spring, the air contained in our humors, being now no longer sufficiently compressed by this external air, distends the vessels, especially those of the brain, as being the weakest, whence apoplexies, suffocations at the approach of rain, &c.

What happens to animals in the air-pump, is owing to the same cause; when the pressure from the external air is taken off, the internal air mixed with their blood, being no longer counterballanced by the external air, distends their vessels; the animals faint, hemorrhages ensue, they swell, and discharge their *fæces*; all effects of the internal air now at liberty, and expanding itself.

M. *Bouguer* in the narrative of his voyage to *Peru*, says, he and his companions were sensibly affected by the thinness of the air, as they went up the *cordilleras*; such of them as had delicate or weak lungs were more sensibly affected, and were subject to slight hemorrhages, owing as he there says, to the lightness of the atmosphere, which was not able to compress the vessels sufficiently; these mountains are 300 *toises* (fathoms) higher than the *pique* of *tenerif*, heretofore reputed the highest mountain in the known world, and 2450 *toises* above the level of the sea.

The above gentlemen, however, became by degrees habituated to the thinness of the air of the *cordilleras*, even as it happens to animals, often put into the air-pump; they become by use less affected by its action; and as the weight of the external air is so necessary to counterpoise the dilatation of the internal air, even so the spring of this same internal air, contained in all our humors is as necessary to
sup-

support the weight of the external air; for it is well known, that a body of 5 foot 5 inches, which is equal to a surface of 16 feet square, supports a column of air, equal to 31500 pounds, when the barometer stands at 28 inches; a weight more than sufficient to crush our bodies, did not the air, contained in both the solids and fluids of our bodies continually support and counterballance this enormous weight by its spring, which becomes so much the greater, as it is compressed; it is also well known that a variation of one inch in the barometer occasions a variation in the pressure of the air of 1000 pounds weight.

It is therefore sufficiently obvious, how greatly all organized bodies must be affected by the sudden changes of the weight of the atmosphere. M. *Mulcaille*, Physician at *Pluviers*, (20 leagues S. E. of *Paris*) attributes many sudden deaths that happened there in *December* 1747, to the most extraordinary and sudden change in the weight of the atmosphere; his barometer fell all of a sudden to 26. 8. from 28 it was before, that is, 1 inch, 4 lines; which was more than sufficient to produce very great alterations in an organized body, seeing every inch of the barometer is equal to 1000 pounds weight, as was before taken notice of.

The pain felt in old wounds upon the change in the weight of the atmosphere, and

old rheumatic aches, sufficiently evince the effect of this variation on our bodies; and probably the effect of the *douche*, or pump in removing swellings, relieving palsies may be owing to the same cause. It very rarely so happens, that the weight of the external air is not sufficiently counterbalanced by the spring of the internal air, it on the contrary happens more often, that the spring of the internal air is not sufficiently compressed by the weight of the external air, and this is what in part makes the *siamese's* disorder *.

To the same cause is owing the difficulty some people find in breathing, and most of those hemorrhages they suffer.

The great rarefaction of the blood in the last stages of the small-pox, is owing to this internal air's greatly dilating the vessels; bleeding in this case wou'd rather increase the evil; for by lessening the quantity of the blood, the air mixed with it wou'd acquire more room to expand itself, and of course, dilate the vessels in the lungs the more.

What happens in *emphysema's* is owing to the rarefaction of this internal air; it is from the same cause that bodies after death swell.

In

* The *siamese disorder*, we are told, is a painful distension of the vascular and muscular parts, owing to the rarefaction of the internal air; the method they employ for their relief is to lay them flat on the ground, and by gradually kneeling upon, and pressing those distended parts, this rarefied air is compressed, by which means they are soon relieved.

In the general, the spring of the internal air is liable to more variations than the weight of the external air is; for the spring of the internal air varies not only according as the heat and cold of the external air varies, but it varies besides, according to the innate heat of the body, which is always as the temperament of the person. Another cause of the variation of the spring of the internal air is, its being affected by our manner of living; it is too well known that excess of any kind soon rarefies this internal air, and that rarefied air alone is able to deprive animals of life, we have many instances*, whereas the weight of the external air is no way affected by us. But man probably is the most changeable thing in all *Nature*.

By the observations made with the barometer, the spring of this internal air varies naturally more in summer than in any other time; it was therefore necessary for the well-being of all animal bodies, that the external compressive force shou'd at this time be more equal, as well as constant, and so we find it. The barometer is found to vary less in summer than in any other season, and less under the equator than towards the poles, which cannot be said to be owing to the heat; for the weight of the air varies less at the top of the mountain than at its foot, tho' it is much colder at the top, as is known by experiments made in both places

* See hereafter the Baker's case.

places with both the barometer and thermometer.

From what has been now said, the utility as well as the necessity of keeping registers of the variations of the temperature of the air is sufficiently obvious; for in all probability, all epidemics are owing to those variations in the temperature of the air; and their unexpected returns to the hidden and sudden changes of the same.

January 1747, the air was always cloudy, the weather moist. On the 4th there was a very great fog, during which time there were a great many catarrhal fevers with exacerbations, and wandering pains, and those often in the side, thereby resembling a bastard pleurisy; there were also some legitimate pleurifies, peripneumonies and *rheums*. The number of the sick, however, was less than in other years at this season. About the 9th, the wind became northerly, which lessened the number of the sick, and intirely banished the above wandering pains. It was observable, that all others, except venereal cases, found benefit from the change in the weather; these were rather worse, while the cold lasted.

The thermometer was at 6 below freezing, the 9th; and at 7, the 10th, 11th; and at 8, the 12th; and at 11, the 13th; the wind was then high at N. W. the above sudden change from moist mild weather for the season

son to dry and intensely cold weather, killed suddenly some young sanguine persons; they complained a little before they died of violent pains all over their bodies; they were seized with an universal inflammation; they died, because they were taken ill at night, or not bled early enough, as appeared by others recovering, and that in a very short time, who had been let blood, as soon as they felt the above pains. About the 16th, the wind came to the south; which brought back with it, the former catarrhal fevers, *rheums*, and wandering pains, and some fore-throats; to the end of the month the air was moist, and warm for the season; during which time, there were diarrhæas, dysenteries, with *tene/mus*, and colics.

All those different maladies seemed to proceed from the same cause, a catarrhal humor, which produced this or the other complaint, as it happened to affect or fall upon this or the other part of the body, as appeared by the same persons being successively seized with different disorders, which cou'd not well be attributed to any other cause than to the same humor, changing from one place to another.

The measles were milder this month than they were the last winter. There were some apoplexies this month, which had this particular circumstance attending those who died,
to

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to

to have bluish spots on different parts of their bodies, especially on the paralytic side.

The quantity of rain that fell this month, was 1 inch, 7 lines and $\frac{1}{2}$.

M. *Malouin* takes notice of the number of sick received every month in the *Hôtel Dieu*, and of the number already in the hospital.

Sick the first of this month in *Hôtel Dieu*, 2868.

Sick received ————— 1587.

Burials 1540, males 783, females 757.

Legitimate	} Births	1608.	} boys 931, girls 976.	} total
Illegitimate		299.		
Marriages		527.		1907.

February was as moist as *January*, the wind was mostly southerly. The barometer stood mostly at 27, 3. the weather was rather mild for the season; the sun was almost constantly considerably warm in the afternoons, which advanced the fruits of the earth as much as they generally are the first of *April*. The coldest day in this month was the 5th. The thermometer fell this day to 5 deg. below freezing. The catarrhal and other epidemics of *January* still kept their ground, acting the same part, as the catarrhal humor affected different parts; some complained of pains in the region of the kidneys, some had a suppression of urine; but it seemed to affect the bowels more than any other part, producing either inflammatory colics, *tenesmus*, fluxes, dysenteries, which were more or less grievous, according

according to the *crasis* of the patient's humors, or the sensibility of his vessels.

Fluxes were the most common, as well as the most dangerous epidemic of this month, and indeed most of the other disorders had a great tendency to either a flux or *tenesmus*, *Hippocrates*, lib. 3 epid. made the same remark. Such as were sick, whether of chronic or acute disorders, had fluxes, that proved mortal.

These fluxes were accompanied with a fever at night, which in some was like a double tertian; in this case, neither *ipécacuanâ*, nor *simarouba*, nor any other commonly employed medicine cou'd remove the flux; all they cou'd do was to suspend the flux for 24 or 30 hours, which wou'd then return, and the fever with it; but both gave way to a decoction of the *cortex* with spleenwort leaves and liquorice. Towards the end of *February*, the same catarrhal humor turned to bilious colics, which were soon removed by emollient clysters, and a few purges.

There were besides some small-poxes and measles, but more in the *Environs* than in *Paris*; the measles did seldom appear before the fifth day, and not all at once even then: there were some double tertians, some of which were of the malignant kind.

The quantity of rain that fell this month, was 1 inch 5 lines.

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Sick in *Hotel Dieu* 3048.

Sick received 1308.

Burials 1322, males 705, females 617.

Legitimate } Births 1499 } boys 875, girls 887. } total
 Illegitimate } 263. }

Marriages 581.

March. The south and north winds reigned mostly this month; the southerly was both higher and colder than it usually is at this season; and on the contrary, the north wind was less violent and moister than usual, otherwise the weather, with regard to heat and cold, was pretty even; the thermometer was almost always near the freezing point, yet on the 15th it fell to 11 deg. below freezing.

The fluxes and *tenesmus* of *February* were still to be seen; some of them wou'd yield to no other thing but a total milk diet.

But towards the end of *March*, all those catarrhus maladies ended in a general itching all over the body, but especially of the legs, where some pimples appeared under the *cuticula*.

There were besides some anomalous intermittents, with a fixed pain in some one part of the head; all those soon submitted to the *cortex*, but such as did not take the *cortex*, discharged *pus* by the nose, as is often seen to happen after the measles.

There were some scarlet fevers, with pimples eruptions; there were also several apoplexies this month, inflammatory defluxions on all

all parts, on the head, throat, lungs; there were likewise some malignant pleurifies and peripnuemonies, in which repeated bleedings were not near so successful as purgatives; M. *Arnaud* of *Orleans* observed the same thing; most of the sick were much inclined to drop-fies during this month, others were considerably swelled in many parts of their body, which in some terminated in a gangrene.

The quantity of rain this month was but 8 lines $\frac{4}{8}$.

Sick in the *Hotel Dieu* 2935.

Sick received 1644.

Burials 1782. males 929. females 853.

Legitimate	{	Births	1630.	{	boys 1003	girls 944.	} total
Illegitimate			317.				

Marriages 90.

April. The weather was very mild, and drier than the preceding months or than is usual for the season; less rain fell in this than in any other month; the reigning epidemics in *April* were bastard pleurifies and peripnuemonies, the spitting of blood appeared early in those disorders.

The other symptoms, as difficult breathing *delirium*, were more considerable than either the fever or heat, to judge by the pulse. Those inflammatory diseases were more dangerous in the beginning than towards the end of the month; but it was not the same with regard to the *rheums*, which did not lessen, upon the

coming in of the mild weather, as one might naturally expect.

It was now as in the preceding month observed, that purging and sometimes vomiting agreed better with those disorders than repeated bleedings. Some of the dysenteries of the preceding months were still seen; there were likewise intermittents of all kinds, which easily yielded to bleeding and purging; the measles kept still among the children.

The quantity of rain was but 6 lines.

Sick in the *Hotel Dieu* 3046.

Sick received 1610.

Burials 1889. males 1061. females 828.

Legitimate	} Births	1546.	} boys 925. girls 923.	} total 1848.
Illegitimate		302.		
Marriages		377.		

May. The air was both cold and dry the most part of this month, tho' there fell more rain in this than in any of the preceding months; the barometer stood almost all this month about $27 \frac{1}{2}$.

The reigning epidemics of *May* were de- fluxions on the head and throat; some on taking the air were suddenly seized with cold, which ended in a slight fever of 2 or 3 days.

The intermittents of the last month were still to be seen; but they likewise submitted to bleeding and purging, few requiring the *cortex*; it was observable that such as had this intermittent fever last autumn had this spring a return of it.

Towards

Towards the end of *May*, the wind changed to the north west; there was then some rain, the air was less cold, which occasioned some *rheums* and peripneumonies, some dysenteries were still seen.

The quantity of rain this month was 1 inch 5 lines.

Sick in the *Hotel Dieu* 2936.

Sick received 1329.

Burials 1548. males 838. females 710.

Legitimate	} Births	1529.	} boys 929. girls 911.	} total
Illegitimate		311.		

Marriages 435.

June. The air was very moist, it rained constantly; yet the barometer stood almost all this month at 28. The wind also was very changeable, tho' it was mostly south and S. W. there was hail the 25th and 26th, there were more sick in *June* than in any of the preceding months; the chief disorder was a quinsy, where it was found the sick bore purging better, and that earlier than in former quinsies, where it was common to see the disorder return, when a purge had been given, before the inflammation was intirely disscussed; the purge here removed the inflammation. Most of the quinsies of this month were accompanied with sickness at stomach, and sometimes with a vomiting of *bile*; such as had not this sickness at stomach complained of a pain and confusion in their head, which seemed to denote

note the seat of the disorder to be in the stomach.

The malignant quinsy of 1746, seized some in the beginning of the month; in such as were opened, the *branchia* and lungs were found sphacelated.

This malignant quinsy is not that described by *Boerhaave* in §. 785. 786 of his *aphorisms*, and which he there says is the forerunner of death, and seldom curable; for his is without any exfoliation of the internal membranes; besides it is the consequence of preceding large evacuations, accordingly he there recommends warm nourishing food; nor is this quinsy what the same author describes in §. 802 and 816, for the quinsies there described are almost always accompanied with a tumor, but never with any exfoliation of the inner membranes, whereas this is always without a tumor, but never without an exfoliation.

It is common enough with phthysical folks to discharge some portions of the inner membranes along with the pus they spit up; but this never happens to them in the beginning of the disorder, whereas the sick in this malignant quinsy very often throw up portions of this inner membrane on the first days of their illness, and that without either *serum* or *pus*, unless after the 5th, and oftener after the 7th, when the gangrene is communicated from the *trachæa* to the lungs; there is then a suppuration,

tion, the patient is then become truly phthifical.

There are many instances in phifical writers of portions of the inner membrane of the *æfophagus*, *thracæa*, and intestines being discharged ; but all such cases are attended with circumstances, essentially different from those accompanying this malignant quinsy.

The intermittents of *June* called for the *Cortex* ; there were likewise some convulsive colics, accompanied with a vomiting, and a numbness and stiffness of the extremities.

The fevers in this month did partake of this same matter, that produced the pain in the joints ; the pain was so great, that they cou'd not make use of either hands or feet ; the blood drawn from them was very bad, such as is commonly drawn from scorbutic folks. Medicated bitter broths, and reiterated purgings were what removed those disorders, which seems to denote they all proceeded from the same cause.

The quantity of rain this month was 1 inch 6 lines.

Sick in *Hotel Dieu* 2805.

Sick received 1144.

Burials 1182. males 567. females 614.

Legitimate	} Births	1383.	} boys 826. girls 806.	} total
Illegitimate		249.		

Marriages 286.

July. There were some showers of hail this month ; the barometer was observed to remain
at

at 27th. the wind was mostly South W. and North-W.

A new kind of fever called the *sweating sickness* made its appearance in *Paris*, but more in the *Environs*; it's first appearance in *France* was in 1718, at *Vimeux* in *Picardy*; it appeared after at *Abbeville*; visited all *Picardy*, a good part of *Flanders*, and it came this year 1747 to *Paris*. Tho' it was seen in all seasons, in *Picardy*, yet it was more dangerous in summer than in any other season.

This disorder wou'd kill sometimes in 24 hours, and sometimes in less time, in 15 hours after seizure, but commonly not before the 3d or 5th, but the latest the 7th day; after this they generally recovered.

This fever seized both sexes, without distinction, and always the most robust and strong, sparing the feeble, the old and infants.

Having it once, did not prevent the patients having it in the same month the year following; some who had recovered, were subject for months, and even for the whole year to sweat at night in bed; those sweats were attended with pimples on the skin, which disappear'd upon the least contact of the cold air, or upon getting out of bed.

This extraordinary disorder has no preceding symptom to discover it by, as most epidemics have; it seizes all at once, with violent pains in the region of the kidneys, weight at stomach,

stomach, and an universal convulsive tremor; they breathe with difficulty, which obliges them to sigh often; they complain of a general languidness, and great confusion in their head; they can take no rest; their whole body feels burning hot, with an acrid moisture on it, which is soon followed by a copious sweat; this is succeeded by a painful, uneasy feel, several little red pimples as big as mustard seed, appearing at the same time; these pimples are often like the measles; at this period the patient's sweat smells like rotten urine; his face is inflamed; his eyes look black and sparkling; the patient appears now as if thunderstruck; he becomes delirious, and soon sinks into a mortal lethargy.

Tho' this cruel malady generally invades the sick as here described, yet it does not attack all persons in the same manner; the pimples do not appear in some before the 2d. in others before the 3d day, and in such as are to recover, these pimples turn white the 7th day, and scale off after.

The tongue in this disorder is as moist as in perfect health, tho' the patient complains of great thirst; it is however, sometimes dry and black, the pulse is quick and soft; they sometimes are troubled with *nausea's*; at one time, they make plenty of urine; at other times very little, and then it is crude; some spit blood; others bled at the nose, and sometimes

so largely, as to occasion faintings; women had their *menfes* before the time; however, all these spontaneous evacuations, which in other disorders bring relief, rather increased the evil; the body was sometimes bound, sometimes open.

This fever was not equally violent in all; yet it was equally anomalous in all; and what is still very extraordinary; when the fever was least violent, the patient was not a bit in less danger, in so much, that one may here truly say, *omnia tuta timenda*. Some were found to have very little fever in the morning, tho' the sweating continued, and the pimples kept out; nor had they any uneasy inward feel, nor any extraordinary heat exteriorly, nor any twitches in the tendons, whereby to foresee a *delirium* approaching; yet all of a sudden they were seized with a phrensy, accompanied with a violent burning heat, face inflamed, and eyes sparkling, and soon after they sunk into a mortal lethargy, and died a few hours after.

This fever impressed such a character on the solids of those, who had the good fortune to escape its fury, as made them justly apprehend its return, whenever they were seized with any other inflammatory disorder; for sometimes as the patient was just recovered, he then wou'd be seized with this sweating sickness, which never missed carrying him off; in this
case

case it was much easier to foresee than to cure this disorder ; for where this sweating sickness is rife, and that the patient's blood appears inclined to putrefaction, and has besides copious sweats, the Physician may expect his patient will be seized with this sweating sickness; for it is in its own nature a *putrid inflammatory fever*.

M. Boyer who was appointed by the government to attend this fever in the *Environs of Paris*, says, it is no way contagious ; he observed it wou'd not communicate itself, but remained in one place. M. Bellot, who treated this fever for many years in *Picardy*, observed it constantly stay'd in one place.

This sweating sickness was either benign or malign ; the sweats are critical in the one, and symptomatical in the other ; in this last case, they shou'd not be encouraged ; but when those sweats are critical, they are then copious, and continue without interruption, sometimes for 7 days ; those want scarce any other assistance than keeping in bed, a proper regimen and ptisanne. Sometimes on the first seizure a bleeding may be necessary, and a purge, when the sweats begin to decrease, which was about the 6th day of the disorder.

But in the malign sweating sickness, they were first puked ; some emollient clysters were thrown up, and some acidulated draughts were ordered, to check the rarefaction of the
B b 2 blood,

blood, and preserve its cohesion, and prevent putrefaction.

A bleeding was sometimes necessary, to diminish the quantity of the same rarefied blood, and sometimes to reduce the strength of the patient; for as was before taken notice off, this fever was found to be more violent in the strong and robust, than in the weak and feeble; the *testacea* were observed to be very beneficial in this disorder, which wou'd induce one to think this fever proceeded from a volatile acid, which those absorbents enveloped and corrected.

We can't well deny the existence of this acid in the blood of those, where we manifestly find a volatile urinous alkali. Something similar to this we find in some mineral waters, where the *bitumen* prevents the acid's acting on the alkaline earth; even so in the blood of those sick, a fine animal oil may envelope separately both the acid and alkali, so as to prevent their acting one on the other, or intimately uniting with each other.

There was besides this another continual fever, wherein the patient's eyes were both black and sparkling, accompanied with profuse sweats, and exacerbations, returning only every other day; these exacerbations, contrary to what is usual, used to anticipate the time by 12 hours, and just as they begun, but particularly in their height, several blisters, like those
after

after a whipping with nettles arose, interspersed with irregularly round red spots, about 3 lines in diameter; both the blisters and spots occasioned such an intolerable itching, as deprived the patient of his rest, and rendered him besides vastly uneasy.

The quantity of rain was 1 inch, 7 lin. $\frac{3}{4}$.

Sick in *Hôtel Dieu* 2608.

Sick received 1203.

Burials 1171, males 592, females 579.

Legitimate	} Births	1449.	} boys 899, girls 803.	} total
Illegitimate		253.		
Marriages		459.		

August. The weather in the general was dry, the wind changeable, mostly west by south, and the glass at 28, but the 9th it descended to $27\frac{1}{2}$; the wind was then westerly. The 27th was looked upon to be the hottest day of this month; the thermometer ascended to $25\frac{1}{2}$. this day.

There were some malignant fevers, some with copious sweats, and some accompanied with swellings. Almost all fevers were attended with a confusion and pain in the head, and pushed greatly for the skin, in either sweats or pimpled eruptions, or large red spots, and here about the 2d or 3d day, some red pimples appeared in the middle of the red spots, accompanied with itching; the redness of the skin wou'd continue as long as the pimples did, and both were accompanied with sweats.

There

There were others, who instead of those red spots and pimples had swelled legs, or if they had the spots, these wou'd disappear, as the extremities swelled; those swellings were very like a blistering with nettles, but larger; such as had those swelled extremities complained of a painful confusion in their head, accompanied with a drowsiness and great uneasiness; whereas those who had the spots and pimples were without that drowsiness; their head-ach was likewise less severe, nor were they so uneasy; in the former, the blood probably was lodged more upon the membranes of the brain, but in the latter on the brain itself. What seems to countenance this conjecture is, the eyes of the former were always red, while the eyes of those, whose extremities were swelled, were not so.

Those fevers gave way to bleeding in the foot, and apozemes, made of *dandelion*, *bor-rage*, *chervil*, *spleenwort*, rendering them now and again purgative.

There appeared some cutaneous eruptions, which some Physicians took for the small-pox, that had missed; we had also some legitimate small-poxes.

It was observable, that those fevers with head-achs, but without the cutaneous eruptions, and with the sweats only, very readily degenerated into malignant ones.

In the *Environs* of *Paris* there were some fevers

fevers among the laboring people, complicated with a periodical head-ach, but without any cutaneous eruption; this head-ach would return every other hour, the countenance of the patient did not change color in the fit of the head-ach, but the muscles of the face seemed to be contracted, the tears flowed involuntarily from their eyes.

This fever was attributed to what they call *a coup de soleil*. i. e. to the violent ardor of the sun; for it was observed that the heat of the sun was very extraordinary all this month, but particularly the 10, 18, 19, 20, 21. What relieved these was a bleeding in the foot, and napkins dipped in warm water, and wrapped round their heads. Such as had no assistance given them, the above pimpled eruptions used to appear 24 hours before their death.

There were likewise some intermittents, both quotidian and double tertians, which visibly partook of the then reigning epidemic; for the patients had in the fit great uneasiness, and were often delirious; others complained of a stitch, had a little cough in the height of the fit; the treatment they submitted to was bleeding in the arm and foot, vomits and purges, and the bark.

As some of the sick complained of the heart-burn, they had coral and crabs-eyes mixed together given them, from which they found benefit; others had those absorbents
mixed

mixed with the *cortex*; one in particular, who had taken the *cortex* mixed with absorbents related, that he felt an inward calm, and an agreeable coolness diffused thro' his whole body.

There were some colics this month, accompanied with rheumatic aches, sometimes in the hip, and towards the end of the month some fluxes appeared.

The quantity of rain was 2 inch. 1 lin. $\frac{2}{8}$.

Sick in *Hôtel Dieu* 2509.

Sick received 1372.

Burials 1286, males 706, females 580.

Legitimate	} Births	1649.	} boys 969, girls 946.	} total
Illegitimate		266.		
Marriages		279.		

September was as dry and warm as the month of *August* generally is; the wind in the beginning of *September* was southerly, the sky clear; there were a great many bilious fluxes, with colics, and *tenesmus*, and some dysenteries.

About the 10th, the wind came to the North East, and brought with it *rheums*, fore-throats, tho' not so common as in the preceding months. M. de *Jussieu's* gargarism had a very good effect in those fore-throats. It is composed of house leek water, kermes mineral, syrup of mulberries and brandy.

The 13th, the wind came about to the South, and to the South East, and settled at South

South West, in this time there were some apoplexies.

The 21st, the wind was at North East; there was thunder this day, and some lightening, with rain; but the northerly wind soon dried it up again; there were some putrid fevers this month, which if they were injudiciously treated in the beginning, became dangerous; these fevers had their exacerbations, but were much easier cured than other fevers; when the patients had been properly emptied, the *Cortex* rendered purgative, soon stopped them; such in the *Environs* as were not blooded in the foot, became foolish after the fever had left them.

The quantity of rain was 4 lin. $\frac{3}{8}$.

Sick in *Hotel Dieu* 2625.

Sick received 1787.

Burials 1636. males 867. females 769.

Legitimate	} Births	1575.	} boys 966. girls 890.	} total
Illegitimate		281.		

Marriages 309.

October. The wind in the beginning of this month, was south and south-west, yet the air was all the time dry; the barometer was at serene, and about 28 inch. the 9th, the wind became northerly with rain, the 10th the wind return'd to the south-west, the air was then both dry and warm; few fell sick in the beginning of this month, except such as had not recovered out of those disorders they were seized with in *September*.

The 12th, the barometer was at 28. inch. 2 lines, we had some fogs in the morning and frost at night.

During this time some putrid fevers appeared, accompanied with a swelling of the skin, sweats, drowsiness; the blood drawn was red, as is often seen in malignant fevers; some had critical abscesses in one or other of the thighs.

The 16th, the wind was south-west, the barometer at serene, yet it rain'd a good deal that day. The 17th, the barometer was at 28. 2. $\frac{1}{2}$. some fluxes were now observed to return, in a few days after they had been stopped; those fluxes were rather catharrs inverted; for they began in *rheums*, which disappeared as the flux broke down, and returned, if the flux was stopped.

The fevers of this month were accompanied with pains all over the body, which wou'd cease, when either sweats, or the former pimpled eruptions appeared on the skin, which evidently shew'd, that this humor was not properly cutaneous, but rather the very matter of the fever.

Some thing *analogous* to this happens upon the approach of the small-pox and measles, where the patients complain of great pains in their limbs, before the matter is critically thrown upon the surface of the body.

These fevers and the pains accompanying them, submitted to bleeding, and reiterated purging

purging, which seems to countenance the opinion of those, who pretend to carry off all cutaneous disorders by the glands of the intestines ; nor do they exempt even the small-pox. This much is certain ; if this method will not prevent the small-pox's appearing in the usual way, it will considerably lessen the quantity of the matter. Daily experience shews, that timely evacuations are the most effectual means to prevent the ill consequences of the small-pox, which are generally abscesses in some one part or other.

The quantity of rain this month was 1 inch 5 lin. $\frac{3}{8}$.

Sick in *Hotel Dieu* 2791.

Sick received 1878.

Burials 1526. males 796. females 730.

Legitimate	} Births	1642.	} boys 974. girls 975	} total
Illegitimate		307.		
Marriages		371.		1949.

November was both less rainy than usual ; the barometer stood mostly at 27. 9. but on the 16th, it was 28. 4. the wind was westerly, the sky was more often covered than clear ; the season was such as *Sydenham* observed to be productive of the small-pox ; accordingly the small-pox was very common this month, but it was benign, and of the discrete kind.

The 7th, the wind changed to the south, which gave rise to sudden defluations, occasioning some suffocating catharrs, and bastard pleurifies ; there appeared this month an in-

termittent fever of a very singular nature, and at the same time very dangerous; the patient wou'd have many fits in the same day, and at other times he wou'd be many days without one; this fever eluded the force of the *cortex* and *testacea*, which answered so well in the intermittents of the preceding month; this fever seemed rather exasperated by the use of the bark, apozemes, &c.

The patients complained of a foul taste in their mouth, the saliva was both thick and bitter, neither diluents nor purges relieved those symptoms; they had some bilious evacuations, which were like the lees of oil; they often, especially at night vomited *bile*, tho' an emetic never cou'd, for it always went downwards, and yet these purgations did not seem to relieve them.

Towards the end of *November*, there were some putrid fevers complicated with a lassitude, weight and pain in the head; blisters were here of infinite service, after the necessary evacuations, by bleeding in the foot and purging had proceeded, the primary disorder being a comatous affection.

The quantity of rain this month was 2 inch. 8 lin. $\frac{4}{6}$.

Sick

Sick in *Hotel Dieu* 2972.
 Sick received 1643.
 Burials, 1394. males 717. females 677.
 Legitimate } Births 1507 } boys 947. girls 826. } total
 Illegitimate } 266. } 1773.
 Marriages 452.

December was the wettest month of this whole year, ; it was observable in the gardens in *Paris*, that tho' all the leaves had not as yet fallen off the trees, yet some new leaves appeared on them this month ; the weather was rather milder than what is usual in this season, and yet there was a little frost the 6th, the wind being then north ; 3 days after there was a little snow, the wind was then westerly ; the barometer was at 27, but mostly at 27 $\frac{1}{2}$. the 2d it rose to 28. 7.

The former putrid fevers still kept their ground ; purges answered best with them in this month also.

There were likewise some acute wandering pains and some cutaneous disorders ; it is very probable that all those several disorders were owing to the same cause ; those sick of the putrid fever were seized in the same manner as the others, who had the above acute pains, both complained of a very painful stiffness, especially in their neck, and exterior parts of the head.

Whenever the pimpled eruptions appeared in the putrid fever, the danger was then over ; the fever disappeared as those came out ; the
 above

above acute wandering pains were in like manner relieved, by the coming out of the same pimples, or the forming of the abscesses.

About the middle of *December* there were scarce any sick, except some dysenteries, which continued more or less since the month of *August*, but about the end of the month there were some erysipelatous defluctions, and some very violent apoplexies, even among the young, which is not common.

The quantity of rain this month was 2 inch. 3 lin. $\frac{3}{8}$.

Sick in *Hotel Dieu* 3009.

Sick received. 1453.

Burials 1440. males 783. females 657.

Legitimate	} Births	1429.	} boys 827. girls 785. } total
Illegitimate		255.	

Marriages 95.

The year 1747 in the general was rather wet than dry, the summer and winter were more so, than the spring and autumn; the winter was extremely mild; on the 25th of *January* the apple and almond trees were full of leaves, there were no hurricanes at the *Equinoxes* as usual. There were a great many sick in winter, the number of deaths was in due proportion to the number of the sick.

There were more sick in summer than in any other season; yet there died fewer this season; on the contrary, there were fewer sick in autumn, and yet more died in proportion.

There

There were fewer sick, and yet more died in the first 6 than in the last 6 months. In the first 6 there died 9274, and but 8453 in the last 6 months.

There were likewise more births in the first 6 than in the last 6 months.

There were 10963 births in the first 6, and but 10879 in the last 6 months. The number of boys and girls was nearly equal; boys 11071, girls 10744. There died more men in every month than women, except in *June*, where there died 614 women, and but 569 men.

April was the month wherein most died, and *July* the least in this year, there died but 1171, but in *April* there died, 1889.

There were more born in *October* than in any other month, the number being 2049, whereas the number in *June* was but 1632, and there were more males born in *March*, viz. 1003 and fewer in *June*, 826, there were more girls born in *January*, viz. 976, and fewer in *July* 803 only.

More women died in *April*, to wit 853, and fewer in *July*, the number being 579.

The number of sick received in *Hotel Dieu* in 1747 was 17958, there were fewer received in *June*, than in any other month, and more in *October*.

Total of what rain fell in *Paris* in 1747, 16 inch. 9 lin. $\frac{2}{6}$.

Total

Total of Burials 18158. males 9592. females 8566.

Legitimate	} Births	} 18446. } total
Illegitimate		
Marriages		4169.

Most of the disorders of 1747 pushed for the skin, and more in the 6 last than in the 6 first months.

It is here remarkable, that this disposition of the epidemics of 1747, to go off by the skin was observable at *Cayenne* in *America*.

M. *Artur* Physician at *Cayenne*, one of the antiles islands, writes, that there was to the east of *Cayenne* a kind of measles, or scarlet fever among the *Indians*, which carried off great numbers, being intirely left to *Nature*, whereas in the mission of *Courou*, where they had proper assistance, very few died.

This evidently proves that tho' several of those *Indians* die now a-days, yet it is certain fewer die, and those later, since there have been Physicians established among those savages than before; the same holds good in regard of the *Russians* since the great *Czar Peter* 1st, established Physicians among them; this observation of M. *Artur's* demonstrates likewise, that notwithstanding the distances between places, and the difference in climates, the same disorders afflict the inhabitants, and this in all times, as *Hippocrates* long since observed in his epidemics; which plainly evinces that the *Healing Art* has always had its general and

and certain rules and maxims, in all times and climates.

Extracts from Mrs. *Arnaud* of *Orleans*, and *Mulcaille* of *Pluvier's* registers.

Jan. 1747. at *Orleans*, the erysipelatous eruptions of *Dec.* 1746, continued still with violence, especially among the lower class of the people; there were a great many defluxions on the eyes, especially after the measles, when they had not been sufficiently purged after, or when thro' imprudence in exposing them too much to the cold air, the eruption was thereby interrupted; a simple decoction of marsh-mallows was found abundantly better to bathe the eyes with than the most pompous *collyriums*; the cold and dry weather succeeding the moist weather, occasioned a number of *rheums*, and peripneumonies, of which several died on the 3d or 4th day, notwithstanding every thing usual in such cases was done.

At *Pluviers*, in the *Environs* only, were some rheums and peripneumonies.

February, at *Orleans*, the rheums, defluxions, spittings of blood were now less severe than in the former month; children were sorely afflicted with a cough; this did not proceed from their stomach; for purgatives afforded no relief, pectoral apozemes and lohoc's only relieved them; the asthmatic had very severe fits; there were many fatal apoplexies.

At *Pluviers*, the epidemics of the preceding month still kept their ground.

March, at *Orleans*, the intermittents of this year were very rebellious, for tertians, became quartans, and quotidians after; the *cortex* cou'd not fix them for any long time, they returned in a few weeks.

The sudden change from warm to cold brought on a great many *rheums*, peripneumonies; there were likewise some fevers with exacerbations, and a continual *delirium*, yet they were not mortal; a few bleedings in the foot, and constant clystering removed them.

At *Pluviers* the same diseases reigned and some intermittents likewise.

April, at *Orleans*, the peripneumonies were still very severe, the fevers of the preceding month became very common, and rebellious; the patients raved continually, their face was red, and eyes inflamed with frequent micturition, tho' they made little water, and even what they made, was limpid, pale and without any sediment; they became after drowsy; those were blooded in both the arm and foot, and had blisters laid on, which seemed to answer better than any other remedy; the tongue was pretty clean, nor did the sick complain of any *nausea* or pain at the stomach: many from the very beginning had both red and white milliary eruptions; and on the 18th, abscesses in the parotide glands, which proved critical, several

several, both children and adults, had defluxions on the cheek and lower jaw ; the common people called this disorder *mangon* ; at *Pluviers*, no epidemics were seen.

May at *Orleans*, there has been a good many quinsies, and some of them fatal, some tertians, no way dangerous ; but within these 15 days, several were seized with a putrid fever, which in spite of every method of treating it, carried off a great many ; the sick from the very first seizure had a *delirium*, complicated with a weight on the head, and a serous *diarrhœa* ; this matter about the 10th became livid and black ; the sick often voided balls of worms ; the pulse was concentrated, yet soft ; it wou'd often slip from under the finger ; the *subjultus tendinum* appeared the 7th, a hemorrhage of the nose wou'd often seize the sick the 9th and 11th, which very often closed the scene, as it cou'd not be stopped ; the blood drawn was grayish on the top, the *crassamentum* tough, and the *serum* oily ; the tongue was covered with slime, but never black ; the 12th or 14th were the fatal days in this fever ; such as did escape, owed their recovery to an universal swelling, which moderated the ardor of the fever ; after this, they were purged with success.

The treatment which seem'd to agree best with them, was to bleed once or twice, a vomit after ; the rest of the treatment consisted

in ordering laxatives, and no more bleedings; some towards the decline of the disorder had tethers as large as a crownpiece on their bellies.

In the *Environs* of *Pluviers*, several malignant fevers, with miliary eruptions, copious sweats, and flux. Cordials were hurtful, an emtic preceded by bleedings, and some gentle narcotics succeeded much better; in some other villages, there were several pleurifies, and peripneumonies; the *kermes* given in the beginning succeeded very well.

June at *Orleans*, there were now few sick; some intermittents and dysenteries among the children of the poorer sort, which were not dangerous; the putrid fevers still subsisted, but were not dangerous, when treated with evacuants; those the Surgeons treated by repeated and copious bleedings all died; the weather grew cold towards the end of *June*, which brought on *rheums*, rheumatisms, and sore throats.

At *Pluviers*, the malignant fevers of the preceding month seized other villages, with this difference, that the sweats were not so copious; such as recovered, remained for some time after *imbecile* and without memory; blisters were here applied with all the desired success.

July at *Orleans*, the putrid fevers still kept their ground, more in the *Environs*, than in the town; there were a great number of legitimate tertians, without any danger; there were

were some scarlet fevers, and bilious colics, these last gave way to anodyne and diluting medicines ; some continued double tertians, began to appear, but as they were not complicated with any crudities of the *primæ viæ*, bleeding answered ; the intermittents of this month submitted readily to bleeding and the *cortex*, rendered purgative.

At *Pluviers*, malignant fevers were still to be seen ; some carabuncles, *cholera morbus* and intermittents in the *Environs*.

August at *Orleans*, the double tertians that succeeded the putrid fevers began to grow common, but were without danger ; there were some bilious colics and dysenteries.

Those double tertians became epidemic, seizing almost every body, but they were not dangerous ; they were accompanied with violent pains in the head ; the treatment that agreed best with them was to dilute plentifully in the beginning ; to throw up simple clysters of bran and marsh-mallows leaves ; after this, to bleed in either the arm or foot, as the violence of the symptoms seemed to require, and lastly to come to laxatives ; for tho' this fever began with bilious vomitings, such as had an emetic given them, were rather the worse, by which it appeared it was necessary to dilute the matter sufficiently before purgatives cou'd be employed.

There

There were in the villages both small-pox and scarlet fevers, but no way dangerous ; they bled once or twice in the small-pox, gave a light limonade, or chicken water, and purged them after, with cassia, tamaricans and Glauber's salt.

At *Pluviers*, several intermittents complicated with a bilious vomiting and flux ; some bleedings, and *aqua pulli emulsionata* and some gentle laxatives had all the desired effect.

In some of the neighbouring villages there were both pleurifies and quinsies.

September, at *Orleans*, both tertians and double tertians extended themselves to all the villages about this town ; they appeared to be owing to the *bile* ; for both the blood drawn, and the dejections appeared bilious ; what further countenances this conjecture is, that there were at the same time some *cholera morbus*, and some bilious colics which seemed to evince, that they all proceeded from the same cause ; this was further manifest, from the manner of treating them, they requiring plenty of diluting draughts to temperate the *bile*, before one cou'd safely give the bark ; those fevers when judiciously treated were no way dangerous ; otherwise they soon degenerated into miliary fevers, complicated with purple spots, which soon closed the scene,

At *Pluviers*, the intermittents of the preceding month still subsisted ; there were some mili-

miliary fevers, and as to the malignant fevers, they wou'd yield to no treatment.

October at Orleans, the fevers of the preceding months still kept their ground, and were the only reigning disorders, except some rheums and peripneumonies, which the northerly wind had now brought with it; among the several remedies employ'd to remove those fevers, the leaves of *cacis* * infused in white wine, seemed to answer best, and in many instances better than the *cortex*; this medicine was given previous to either bleeding or purging, and after both had been employed; it was not attended with any sensible evacuation; if it did not cure the patient, he found no ill effects from it.

Pluviers, intermittents of all kinds were very frequent; in a neighbouring village, there were 7 persons ill of a malignant and lethargic fever; they all recovered; they were blooded, had an emetic in a small dose given them, and repeated often, and were blistered; but 4 of them lost their memory, and did not recover it in two months; the *dysenteries* gave way to the *vitrum ceratum antimonii* and anodynes.

November at Orleans, the epidemic intermittents disappeared; none relapsed, but such as were negligent in their regimen; but there were some *rheums*, sore throats, and quinsies; there were likewise some colics of the stomach, and

* What those leaves of *cacis* are, I cou'd not learn.

and intestines, but were not followed by a flux; they gave way to diluting remedies, none died.

Pluviers, putrid fevers, quartans, pleurifies, dropfies, diarrhæas, rheumatisms; and a great many apoplexies which were all fatal.

December at Orleans, there were few sick, except some *rheums* and disorders of the stomach, owing to indigestions, and some relapses of the fevers of the preceding months.

Pluviers, the same disorders of the preceding month, but fewer were sick.

The epidemic diseases of all countries have undoubtedly one common cause, which can be no other than the bad quality or corruption of some of those things necessary for common use.

The air and aliments are such as are common to every body; and they are the frequent causes of all epidemic diseases; but besides these common causes of all epidemics, besides the sensible variations in the temperature of the air, its heat and cold, dryness and moisture, and different gravity, we must necessarily admit some other hidden (inexplicable indeed) cause, capable of producing those alterations in our blood and juices, as are productive of those reigning epidemics, which are observed never to be two years the same in any one place. This cause has remained inexplicable in all succeeding ages from *Hippocrates* his time to this; this is what has rendered all *hypotheses*,

theses, advanced concerning the nature and cause of the plague, which differs in degree only from epidemic diseases, precarious; this is the *το δειόν* of *Hippocrates*, by which he only meant *incomprehensible*. Besides this occult, inexplicable cause of epidemic diseases, the sensible changes in the temperature of the air, do undoubtedly often produce the same, the different seasons of the year are known, to produce different maladies; for instance, a dry air, produces one species of maladies; the moisture of the same another; the cold a 3d; and heat a 4th kind peculiar to itself; especially when these sensible qualities change suddenly, from the one to the other.

There is nobody who is not sensibly affected by the sudden changes of the weather from hot to cold, from wet to dry, and that in proportion to the state of health he then is in, and according as said change is more or less sudden; the judicious Physician has always had a peculiar attention to the present constitution of the air, in the treatment of all epidemic and other disorders. Daily experience teaches, that the temperature of the air is so affected and changed by tempests and hurricanes, as evidently to have a bad effect on all such disorders, as proceeded from putrefaction; every body knows that thunder and lightening has fatal effects on all consumptive folks, as well as on those seized with the small-pox.

January 1748, in the general, the weather has been very mild all this month, the leaves were not yet all fallen off the trees, and some new ones were seen on them in the gardens in *Paris*; the weather was so soft, the first days of *January*, that the thermometer rose to 9 deg. above the freezing point; the 10th it fell below freezing, and the 13th it was 6 degrees below it; the frost was now pretty hard, and continued freezing to the 17th, when a thaw began, which increased gently every day; the wind veer'd all round the compass this month; for the last 8 days of this month the wind changed from south to east, more gently than the minuet hand of a watch moves; it never varied during that time.

The air was moist during the thaw; but to the end of the month after it was dry; the 17th there fell a good deal of snow.

The air was rather light all this month; for the barometer stood at 27. $\frac{1}{2}$.

There were several *rheums* this month, complicated in some with a colic; but such as appeared after the thaw were more common as well as more dangerous; such women as were seized with those *rheums* at the time of their menses, had them very sparingly, and even spit blood, as did other women, seized with the same fever, but such only as were never happy in those periodical evacuations; all those were

were cured of their spitting of blood and *rheums* by a bleeding in the foot.

Those *rheums* were in the general very stubborn ; some were feverish, and seemed threatened with a peripneumony ; it was observable, that the severer the cough was, the feer the patient was from a fever, and *e contra*.

There were towards the end of the month some very dangerous pleurifies, most of those were ill of colds 10, 12, 15 days before ; on their seizure they were taken with a shivering, and in three days after with a stitch, which removed generally about the second day, without relieving the other symptoms ; most of those died before the 7th, and sometimes before the 5th ; the sick complained of great confusion in their head, and their stitch was always under their false ribs.

Others were seized with the same shivering, but in the place of the stitch there succeeded a considerable heat and copious sweats, and that without the lungs being the more affected, as was the case in the pleurisy ; others had those same shiverings for two or three days successively, and after each shivering copious sweats.

Others ill of those *rheums* complained of a pain in the region of their kidneys, and of a lassitude in their thighs and legs, and indeed those *rheums* were in the general preceded by pains all over the body, and sometimes by a shivering ; the blood drawn in those *rheums*

was fizy ; it was observable that tho' there were a great many pleurifies, during this epidemic *rheum*, in which several died before the 5th day, yet very few of them spit blood, tho' it was common to see those sick of rheums spit blood ; and what is more, such pleuritics as did not spit blood, were not always the less in danger on that account, nor were those who spit blood the most difficult to be cured, as *Hippocrates* in his epidemics of the island of *Coos* hath well observed.

Such as escaped from those pleurifies were long recovering, and even some were seized after with a fever, which from the head-ach, drowsiness, and the black tongue of the sick appeared to be malignant.

There were likewise some sudden deaths and apoplexies, and what was very extraordinary, several coachmen were known to fall dead out of the coach-box.

The depth of the rain this month was 6 lines only.

Sick in *Hotel Dieu* 3076.

Sick received, 2023.

Burials 2004. males 1045. females 959.

Legitimate } Births 1717. boys 844. girls 876. } total
Illegitimate } 300. boys 162. girls 138. } 2017.

Marriages 388.

February was much drier than usual in this season ; it was very dry, even the days there was no frost, nor did it rain but one day, the 4th, the wind was that day west ; the wind
was

was mostly east, or north, seldom west, and much less often south; the highest the barometer stood at was 27. 11. and the lowest was 27. $\frac{1}{2}$.

The sun appeared every day; the air was very temperate, and the weather was as mild as it generally is in *April*; the coldest days were the 26th and 27th, the thermometer fell to 6 deg. below freezing, by a N. E. wind.

The epidemics of this were the same of the preceding month; there were some dangerous peripneumonies; they were ill of *rheums* some 8, 10, 12 days before, the stitch was under the false ribs; the day after their seizure, they complained of their head's being engaged; those died between the 5th and 7th, if they were not judiciously treated in the beginning; towards the end of the month, those inflammatory disorders were not so rapid in their termination; but still they were full as dangerous in proportion; the sick did not complain of any sense of cold or shivering at this time, nor had they a stitch, as they had in the beginning of the month; but they complained about the 7th of a pain in the side of the belly, towards the *os pubis*; the belly became after distended; the day after the head became engaged, the fever encreased considerably at nights, the sick died about the 11th day; from the 8th to the 15th several had large discharges of *pituuta* from the nose and mouth; others

others complained of sore throats, and *rheums*, and such as were gouty before had now a fit of the gout.

When this catarrhal humor was not thrown from the head on some other part, it then occasioned sudden deaths, and apoplexies, such as died suddenly as well as those seized with apoplexies, were known to complain for some days before of a pain in their head, especially such, as had indulged their appetite too much; some of them bled at the nose, a few days before their seizure.

The depth of the rain in this month was but 3 lin. $\frac{1}{2}$.

Sick in *Hotel Dieu* 3389.

Sick received 1991.

Burials 2046. males 1047. females 999.

Legitimate	} Births	1617. boys 811. girls 806.	} total
Illegitimate		328. boys 157. girls 171.	
Marriages		785.	

March, the weather continued very dry, tho' there fell a good deal of snow, the barometer fell to 27. 3. but the 8th the weather grew soft, the barometer rose suddenly this day to 28, but it commonly stood at 27. 7. the wind was mostly northerly, it was often N. W. and sometimes N. E. it was but once at S. W. and that the 9th, it snowed a good deal that day, but did not rain; it thawed the 11th; tho' the thaw was gentle, yet it brought on several very troublesome *rheums*; but they were not so stubborn, as those of the last month.

Such

Such of those *rheums* as were with a fever, were of shorter duration than those that were free from it ; this fever began with pains in the arms and legs, which were followed by pains in the thorax, stomach, belly ; all these symptoms were complicated with a stifling, and such of the sick as were not assisted early, and properly emptied, died in a few days ; this fever very readily degenerated into a malignant one, and it was as necessary, and at the same time as difficult to take hold of the proper time to assist the patient, as it is in any other disorder. Bleeding in the foot was found very serviceable in this catarrhus fever ; some used to bleed at the nose ; the urine was plenty and in some appeared like that of a healthy person ; some were seized with both pleurisy and apoplexy at the same time ; a Lady in particular bled first at the nose, before her seizure ; she was greatly afflicted with a noise in her ear for some time before, which rendered her almost deaf ; but she neglected to take any advice ; this Lady died the 4th day, in spite of every assistance, which was early enough given her. Such women as were ill of this fever, complained of a beating in their head ; this beating wou'd remain even for the first days after their recovery ; many of the sick had every day about the same time, exacerbations, which began with a sense of cold ; the bark given in decoction with the cold seeds, and rendered

ed purgative with *Glauber's salt* and compound syrup of apples was found to answer well.

There were at the same time some quotidian and double tertians, which seized the sick with a shivering; but these easily submitted to the usual treatment, and the bark, emptying them first properly, and even drawing some blood, according to the circumstances.

Among the lower class of the people, there were very dangerous pleurisies; but vomits joined to some gentle purgatives, and given about the 6th or 7th day, succeeded very well.

A young lad about 16 was now seized with a very severe peripneumony, for which he had been plentifully both bled and purged; he recovered, and very soon after took the small-pox, which was of the confluent kind, and suppurated greatly; he here also recover'd, but there formed such an abscess on his *genitalia*, as threatened a mortification; he recovered after all, but has remaining a *spermatocele*.

There were also some palsies, which were not preceded by an apoplexy; these were mostly old people; there were some dysenteries this month.

The depth of the rain this month was 1 inch. 2 lin. $\frac{2}{3}$.

Sick in *Hotel Dieu* 3407.

Sick received 2151.

Burials, 2615. males 1332. females 1283

Legitimate } Births 1734. boys 894. girls 840. } total

Illegitimate } 337. boys 174. girls 163. } 2071.

Marriages 37.

April this year was much colder than usual; the 4th was the coldest day, the thermometer fell this day to 3 deg. $\frac{3}{4}$ below freezing, tho' the wind was south; there were towards the end of the month, some showers of hail, such as are seen in *March*; the barometer was changeable, yet it generally stood at 27 7.

The wind was mostly north-west, the westerly wind was this month colder in proportion than the north-east wind; the south-west wind did not bring rain with it this month, as it usually did, and the southerly wind, which is generally warm, was cold this month, owing to the great cold of this winter in *Provence*; the same has been observed in 1709, where the cold was extreme in *Provence*.

The chief reigning epidemic in this month was a putrid fever, its principal symptom was a stitch, and that mostly in the right side, and region of the liver; it wou'd ascend in some to the arm hole, and extend itself to the breast, and sometimes it wou'd descend along the belly to the groin, forming a stricture under the false ribs, which occasioned both a shortness and difficulty of breathing; those

symptoms seemed to characterise this fever a bastard pleurisy, complicated with a putrid fever; it was here observable, that this fever was mild in the beginning, and wou'd often disappear for 12, 15, 24 hours, and wou'd return after with double violence, which is the true character of epidemic disorders, as *Ballonius* after *Hippocrates* hath observed.

The stich did not affect the *thorax*; the sick coughed or spit little, however these spits were often tinged with blood; they complain'd of a painful heat in their belly, which wou'd seize them by fits; the urine was in a very small quantity, tho' the sick did not sweat; some urine was red, but for the most part, it was thick, whitish, like coffee boiled on milk.

Others had their head greatly engaged, or at least painful, and had often sore throats; bleeding wou'd only relieve the symptoms, but did not in the least remove the cause; repeated bleedings were rather hurtful, which plainly shewed, this fever was not properly inflammatory. What succeeded best, were copious discharges by stool, and some antiseptic medicines to stop the putrefaction of the humors; for it was observed, that those who had been plentifully blooded died; whereas those who had been emptied largely by stool, and had little blood drawn from them recovered.

It was farther observed, that an emetic given early, succeeded better, in relieving the head-ach than even a bleeding in the foot, and some found, that emetics in the general agreed better with this fever than purges; the *kermes* did not answer here, as well as the emetic tartar; such as were easily purged, or had their belly naturally soluble, recovered, while those whose bellies cou'd not be easily opened, died.

The sudden gusts of heat, that some of the sick complained of in their bellies, probably was owing to the putrid humor, now thrown upon their bowels, and not to any inflammatory disposition of the part, seeing a bleeding in the foot relieved them, by taking off the tension of the part, and thereby making way for the purge, to carry off this putrid humor; such as escaped were long a recovering.

There were besides this putrid fever, a great many *rheums*, sore throats and peripneumonies, but they were not accompanied with any thing unusual.

A man about 40 seized with a peripeumony seemed cured, but in two days after, he was all of a sudden seized with a violent oppression, which every one thought wou'd have killed him; he at the same time swelled all over, but more in proportion in the belly and chest than in the rest of his body; a fluctuation was sensible in the abdomen, and there was great reason to suspect that there was an extravasati-

on of *serum* in the cavity of the *thorax* ; this patient took aperatives to no purpose ; he after took a purging draught, made of manna two ounces, *pulvis Cornachini* half a dram, and syrup of buck thorn an ounce ; this medicine had a singular effect ; the patient continued purging for three days, in which he discharged a surprising quantity of water ; he at the same time made plenty of urine ; by using an aperitive ptisanne, and repeating the same phisic twice more, he was perfectly cured.

There were some sudden deaths, apoplexies and palsies, this month, especially among the aged and infirm.

The quantity of rain was one inch. 3. $\frac{5}{8}$ lin.

Sick in *Hôtel Dieu* 3427.

Sick received 1873.

Burials 2268. males 1214. females 1054.

Legitimate	} Births	1530. boys 786. girls 744.	} total
Illegitimate		307. boys 156. girls 151.	

Marriages 208.

May, was alternately moist and dry ; in the general, the weather was temperate, yet there was the 8th at night and the 9th thunder and lightning, the wind being then southerly ; in the 3 last days of *May* we had thunder, lightning and rain, the wind being then north or north-east, and what is more extraordinary, this wind was warm.

The 17th and 31st, were the hottest days in *May* ; the thermometer rose on those days to

23 deg. the 25th, 26th, and 27th, were the coldest days, it froze in the nights; the wind was those days N. or North-East, and very violent; it is observable in general that the wind in winter augments the frost, at other seasons it prevents it. The barometer changed often this month from 27 4. to 28 2. but it mostly stood at 27 inch. 8 or 9 lines.

The same disorders of the preceding month still subsisted, but there were fewer sick; such as had the fever with stitches and cough in the last month, and had not been sufficiently purged after, were found to relapse in this, but were not so violently taken ill, as at first; diluents and purgatives soon restored them; it was necessary to bleed those only, of a sanguin inflammatory constitution.

There were some apoplexies; such as escaped, became paralytic of one side, and complain'd of pain in that side, but more than usual on the 15th, the wind blowing violently from the South-West; the 17th, the wind blew pretty hard from the south, and yet it was very warm.

During which time all the symptoms attending the apoplexies, and in general, all the complaints of the head, were considerably increased; for it was observable that the southerly wind either occasioned, or increased the disorders of the head, as the north does generally those of the breast, it was observable that
the

the sick were a good deal worse upon the change of the weather to cold the 25th, but the two following days the wind being N. E. they grew better, and particularly the apoplectic; these 3 cold days brought on some *rheums* of the head, different from those in the beginning of the month; in the general, those *rheums* were stubborn; the peripneumonies were the same, as in the preceding month.

There were some of the malignant fevers of the former month still to be seen with the stich still in the right side; all the defluxions of this year, were more bilious than inflammatory; purging therefore did better than bleeding.

The gout was more difficult to be fixed this month than usual; the quantity of rain was 1 inch. $\frac{5}{8}$ lin.

Sick in *Hotel Dieu* 3232.

Sick received 1511.

Burials 1867. males 1036. females 831.

Legitimate	} Births	1338. boys 687. girls 651.	} total
Illegitimate		287. boys 147. girls 138.	

Marriages 369.

June was very temperate, all to the 19th, 21, 22, and 23, which were exceeding warm, the thermometer rose the 23d to 29 $\frac{1}{2}$.

The barometer was more changeable than usual in this season, yet it mostly stood at 27 9. and towards the end of the month to 27 in. 11 lin.

The air was moister in *June* than usual, it often rained this month, with a North West wind,

wind, but not always with a South West wind, which is what is most common in *Paris*: but it must be observed, that as oft as there was thunder and rain in this month, the wind was South-W. the thermometer was the 3d of June at 18 deg. and the barometer at 27 in. 9 lin. at N. W. there was a considerable *aurora borealis*; all the disorders in this month push'd in the general for the skin; such as miliary fevers, *erysipelas's* and some small-poxes.

The skin and eyes of some became red all of a sudden; when this redness was in large blotches on the skin, they were neither painful, nor did they itch, they were free from a fever, and wou'd disappear in two days; but when pimples appeared in the same blotches, they were attended with a painful itching and with a fever more or less; and wou'd hold 5 or 7 days, and required both bleeding and coolers; there were at the same time other fevers, which drove by the skin, especially in sweats; when those sweats did not break forth, the sick used to swell, but bleeding removed those puf-fings.

Some discharged *bile* both upwards and downwards, and during the great heats, some had vomitings, accompanied some times with a flux, and such as had not the flux, had a *ptyalism*; they were no way thirsty, the blood drawn from them was like red curran-gelly, and the *serum* that separated from it was yellow and

and oily. There were likewise some sore throats, and peripneumonies, which seemed to differ in the seat of the disorder only ; both preceding from the same cause ; for some had all the symptoms of a peripneumony, cough, difficulty of breathing and fever ; but upon the coming of the sore throat, and swelling in the exterior parts, all the former symptoms and fever wou'd disappear ; the malignant quinsy of 1746, appeared this month about *Amiens* in *Picardy*, among the children. Some died in nine hours, after they were seized, at least after it was observed they were taken ill.

There were sudden deaths this month, and some children seized with apoplexies ; it was likewise observable, that such as had fits of an apoplexy in spring, were more affected the last days of *June*, when the weather grew cool after the great heats.

The quantity of rain this month was 1 inch.

7. $\frac{2}{7}$. lin.

Sick in the *Hotel Dieu* 2886.

Sick received 1271.

Burials 1450. males 786. females 664.

Legitimate	} Births	1312. boys 681. girls 631.	} total
Illegitimate		256. boys 130. girls 126.	

Marriages 278.

July was more equally warm than *June*, tho' it was not so hot, yet the weight of the atmosphere was more unequal, however the barometer stood mostly at 27 $\frac{1}{2}$. the air was very dry, tho' there fell a good deal of rain for the

the season; on the 3d, there was a good deal of rain, some lightning and thunder, the sky was covered with red clouds, the wind being northerly, and on the 23d there was a good deal of thunder and rain, but no lightening, the wind was this day south-west.

There were fewer sick in *July* than in any of the preceding months, yet there were still some apoplexies, which were observed to seize indifferently all ages this year; there died suddenly a great many infants this month, and indeed of all ages.

There were some defluxions, and *rheums* of the head, sore throats and *ophthalmia's*, and itch.

There were some fevers with copious sweats, and red spots, the *cuticula* peeled off, as was observed in 1747.

The quantity of rain this month was 1 inch.

3 $\frac{5}{8}$. lin.

Sick in *Hotel Dieu* 2699.

Sick received 1229.

Burials 1086. males 565, females 521.

Legitimate } Births 1436. boys 718. girls 718. } total

Illegitimate } 259. boys 132. girls 127. } 1695.

Marriages 342.

August. The temperature of the air was natural, neither too hot, nor too cold, nor too dry, nor too moist. The weather was pretty even, yet the barometer varied greatly; the highest it rose to was to 27 in. 10 $\frac{3}{4}$ lin. and the lowest was at 27 $\frac{1}{2}$. The wind in this as in the

last month, was more steady than usual; the 18th was the only time it changed much; it was this day East, North East, and South West; the wind blew mostly all this month from the East and West; this wind was now drier than it usually is at this season.

Tho' there was a good deal of rain this month, particularly the 3, 4, 11, 18, 19, 24, yet the air was not moist; there was on the 24th both storm and lightning; the night of the 26th and 27th, there was lightning all the time, tho' the wind was not sensible; the 29th there was thunder, the wind blew violently from the West by South, and tho' the air was cool, yet there was lightning all that night.

Tho' there were fewer sick in *August* than even in *July*, yet there were during this month some epidemics, and some putrid malignant fevers, in which the sick used to cough, without perceiving any pain in their side, and others had a pain in the side without a cough, while others had neither pain in the side, nor cough.

There was at the same time some simple continual fevers, which easily submitted to bleeding and purging; some after the fever became paralytic in their thighs and legs; bleeding rather increased this complaint; there were several sick of colics both in the beginning of this, and the latter end of the last month,

month, which required different treatment, according to the different constitution of the sick.

There were likewise some fluxes and dysenteries, but fewer than usual in this season, tho' the fruit, and especially plumbs were very plenty; and many of those who were troubled with both colic and flux never eat any fruit; many complained of swelled gums, fore-throats; the small-pox was also seen this month.

Some vomited blood, but this was not attended with any bad consequence, as it was not accompanied with a fever. For, as *Hippocrates* observes, Aph. 37. lib. vii. *A vomiting of bleeding without a fever, is salutary; but if there be a fever, it is bad.* It was not pure blood those threw up; it was mixed with thick and fetid lymph, like what is discharged in a hemorrhoidal flux.

The quantity of rain this month was 2 inch. $8\frac{5}{6}$ lin.

Sick in *Hôtel Dieu* 2589.

Sick received 1312.

Burials 1211, males 599, females 612.

Legitimate	} Births	1528, boys 785, girls 744.	} total
Illegitimate		262, boys 142, girls 120.	

Marriages 285.

September was likewise temperate and pretty warm, the lowest the thermometer fell to was 7 deg. above freezing, and the 11th it rose to 23 deg. above it; tho' the barometer was

very changeable all this month, the changes were so insensible, that there was very little variation in the weight of the atmosphere; animals therefore, were no way affected by those changes, as they always are, when those changes in the gravity of the air, are either considerable, or sudden. The barometer stood mostly at 27 in. 10 lin. or thereabouts, and the highest it rose to was 28 inches.

The wind for the most part of this month was North or North East; it was sometimes North West, but very seldom South West, or South East; the 7th was the clearest day, there was no wind this day.

The weather was almost always serene this month, and the nights very bright, especially during the full moon; the air was rather dry, for it seldom rained this month, and that on the 12, 23 and 28 only; the 12th in the morning, there was thunder and lightning, the wind turned from S. E. to W.

It was probably owing to this dry temperature of the air, that there were so few sick this summer. *Ballonius* made the same remark in his *Ephemerides* of 1575. *Estatis major pars fuit sicca et pluvijs carens, autumnii principium squalidum siccum, pluvijs carens—morbi nulli populares vagati sunt.* However, it is to be observed, that tho' there are fewer sick in a dry temperature of the air, the disorders that reign in such a constitution of the air are more bilious and

and acute, agreeable to what *Galen* in his Comments on *Aph.* 7. lib. 3. *Pauciores generat humores, sed biliofiores reddit; ob eam causam numero pauciores sunt ijs, quæ fiunt in temporibus pluvijs, sed sunt acutiores.*

There were in the beginning of this month as few sick, as in the two preceding months, tho' the fruit, and especially plumbs were very plenty; but these fruits were thorough ripe, and probably fruit is less hurtful in dry than in moist seasons; not only because they are better in the one season than in the other, but because they cool the blood, and relax the vessels in such dry temperatures of the air.

The intermittents of this month, gave way to bleeding and purging; some double tertians and quartans required the bark, and some an emetic.

The same fevers at *Auxere*, about 45 leagues East of *Paris*, submitted to the same treatment. At *Roan*, the fevers there pushed mostly for the skin in pimples. At *Paris*, the fevers were attended with copious sweats; it was observed, that if those sweats were imprudently stopped, the sick wou'd swell.

This fever among the poor, was attended in the fit with a very great drowsiness. Most of those fevers were attended with defluxions on the head, and in the general, there were more children than adults sick this month; the colics of *August* were still to be seen.

The

238 MEDICAL ESSAYS, &c.

The depth of the rain this month was 1 inch 10 lin. $\frac{4}{5}$.

Sick in *Hotel Dieu* 2658.

Sick received 1414.

Burials 1115. males 595, females 520.

Legitimate	} Births	1521, boys 806, girls 715.	} total
Illegitimate		283, boys 137, girls 146.	

Marriages 340.

October was very moist, for it rained often; the wind was mostly West or South West, except the 4th, when it was North West, and from the 12th to the 23d it was North or North East.

The weather-cocks on the 8th pointed westerly, yet the clouds drove South West; the 9th the wind settled at South West, and this was the finest day we had this *autumn*. The barometer remain'd settled at 27 in. 10 lin.

The 11th, the sun being very hot, some drops of rain fell, which were warm, such as are often seen in *summer*, the wind was then South West.

It was also remarkable, that it did not rain more with a South West than with a North West wind, but rained equally with both.

October was rather mild, the barometer changed often; it was at the highest the 14th, which was at 28 in. 2 lin. the wind being at N. and N. E. and the lowest it was at 27 in. $1\frac{2}{3}$ lin. and that on the 27th, the wind being at South West.

The reigning epidemics this month were
some

some continual fevers, which easily degenerated into malignant ones; in others, they terminated in considerable swellings of the body, and in others, in abscesses in the arms.

It was observable, that in the general, the epidemics of this month affected the head, for most of the sick raved; the humor they proceeded from, producing exteriorly erysipelas's, and inwardly malignant fevers; and here it was found, that reiterated purging after a bleeding in the foot was what succeeded best in these fevers; there were at the same time some fluxes, some puffing swellings and small-poxes no way dangerous.

The intermittents of this month were very anomalous; there was this singularity in some of them; they had but one or two regular fits, which did begin as usual, with a shivering; after this, the fits were less sensible, and their returns less regular, and those fits terminated by little sweats, which lasted a good while. Some of the sick had a bluish spot, approaching to black on their tongue.

If during their convalescence, they did not observe an exact regimen, they very readily relapsed into the same disorder.

The pestilential quinsy of 1746 returned this month; it was remarkable that it now seized only the little girls of the convent of *St. Mary in du Bacq-street*, as it seized but the little boys of the Jesuits College in 1746.

This

This quinsy was now complicated with a bleeding of the nose, which it had not in any of the preceding years, and this is all it wanted to be exactly like what raged at *Naples* in 1618, and which carried off so many children. The *trachæa* was generally the part affected, for which reason there was no difficulty of swallowing attending it.

It was remarkable, that oysters disagreed with almost all that eat of them, especially before the weather set in cold.

The depth of the rain this month was 1 inch, 9 lin. $\frac{5}{8}$.

Sick in the *Hotel Dieu* 2825.

Sick received 1682.

Burials 1190, males 649, females 541.

Legitimate	} Births	1551, boys 825, girls 726.	} total
Illegitimate		316, boys 160, girls 156.	
Marriages		391.	

November was very moist, tho' it did not rain much; this moisture was owing to the wind, which to the 17th was either South, South East or South West; the remainder of the month, it was either East, North East, or North, except the last days, when it became South West; the weather however, was very warm for the season to the 16th; the easterly wind, which blew this day, cool'd the weather; the 3d the thermometer rose to 14 deg. above freezing; the wind being South; and on the 22d, it fell to 4 deg. below freezing, the wind being then N. E. the weather however, did

did not change much this month; the barometer kept all along very high; it was at 28. 7 $\frac{1}{2}$. the 25th and 26th, the wind being then North East.

There were a good many fore-throats, which had no other peculiarity attending them, except their being stubborn, and difficult to be removed; some had two or three fits of a fever, which seized them with a cold fit, and then terminated by sweat.

It was here remarkable, that such as complain'd of pain, were still worse, while the sweats were on them; they however, found benefit after from those sweats. Some had this fever without the fore-throat; but then they had pains in their side, which wou'd often shift from place to place, and some did spit blood, tho' they had no cough.

There was a visible corruption of the humors in most of those fevers, by which many of them became malignant. Some died the 10th, some the 12th, and some held out to the 20th.

There were besides some fluxes, and small-poxes, which tho' of the confluent kind, were not dangerous; the pustules seemed to dry sooner this year than usual.

The depth of the rain this month was 1 inch, 8 lin. $\frac{5}{6}$.

242 MEDICAL ESSAYS, &c.

Sick in the *Hotel Dieu* 2934.

Sick received 1600.

Burials 1197. males 630. females 567.

Legitimate	} Births	1330, boys 665, girls 665.	} total
Illegitimate		258, boys 135, girls 123.	

Marriages 553.

December, the barometer varied greatly this month, the 28th, it fell to 26 8. the night before, there was a hurricane, the wind blowing very violently from the south; the 19th it rose up to 28 2. which was the highest it rose to.

However the air was much less cold than usual at this season; the thermometer was oftener at 5 deg. above freezing, and on the last day of the year, it was at 9 degrees in the morning, and at ten degrees $\frac{1}{2}$. in the afternoon; the 25th, there was a very great fog, which covered all *Paris*; the thermometer was this day at 5 above freezing, and the barometer of 27, $\frac{1}{2}$. the wind being then south.

The wind was mostly south-west, often south, and sometimes west and north-west, seldom north, but never either north-east or east.

The epidemics of this month pushed fairly for the skin; most had either sweats, or pimples eruptions, and sometimes both.

There were a great many sick of the *measles*; the redness remained a considerable time (14 days) especially on the chin; the *measles* did not af-

affect the eyes so much this year, as usual, the matter going off more by the bowels; purging was therefore very successful.

There were a great many small-poxes of the confluent kind in *Hôtel Dieu*, which were favorable; such as had small flat pustules, and bled at the nose, had some acidulated draughts with success given them.

Several complained of pains in their flesh, especially in their extremities, and particularly about the knee; there broke out on those parts white pustules, like those of the small-pox of the discrete kind, but their base was not red, as those of the small-pox are.

The depth of the rain was 2 inch. 10 lin. $\frac{2}{6}$

Sick in *Hotel Dieu* 3114.

Sick received 1629.

Burials 1248. males 658. females 590.

Legitimate	} Births	1293. boys 695. girls 698.	} total
Illegitimate		326. boys 128. girls 108.	

Marriages 27.

Were we to consider the temperature of the air only, we shou'd find, that the winter of 1748, was both mild and dry, and yet there died more in winter than in any other season of this year, tho' the number of sick was not so great as in other seasons. There was a visible tendency to putrefaction in all the disorders of this winter, both internal and external; the gangrene often succeeding either fractures, or other disorders of the external parts; Surgeon *Faget* of *la Charité* employed more of the

Syrax ointment the first three months of this year, than what was in other years employed in a whole year.

There were more sick in spring, and yet more did not die in this than in other seasons; and even among those, more died of the aged than of others; the summer was extraordinarily dry, and yet there did not fall less rain this season than in others.

There were fewer sick and fewer died in this than in any other season; and it was remarkable, that there were fewer sick in *August* than in any other month, tho' the fruit, and especially plumbs were very plenty this month, as was before observed.

Autumn was very moist, for it rained more in this than in any other season; there were more sick in autumn than in summer, and yet very few more died in autumn than in summer.

It was observable, that the epidemics of autumn pushed more for the skin, either in sweats, or pimpled eruptions in this, especially in *December*, than in any other season of this year.

On the whole, this was not a wet year; nor was there any extreme cold this year, the night of the 12th and 13th of *January* was the coldest, the thermometer fell that night to $10 \frac{1}{8}$ deg. below freezing.

And

And as to heat, it was pretty temperate, except in the afternoon of the 23d of June, which was extraordinarily hot, the thermometer rose to 29 deg. $\frac{1}{2}$; which shews that the heat of the air in 1748, was nearly the same as in 1706, which was the only hot year of this century, but the heat lasted longer in 1706 than in 1748.

There were a great many apoplexies, and sudden deaths among the children this year, which is worthy notice; for this is not common at that age. There were likewise several *parotides*, in consequence of malignant fevers, most of which suppurated.

Total depth of the rain in 1748, 17 inch. 3 lin. $\frac{5}{8}$.

Of the sick received into *Hotel Dieu* 19691 sick.

Of burials 19529. males 10265. females 19264.

Legitimate	} Births	17907. boys 9197. girls 8710	} total
Illegitimate		3429. boys 1762. girls 1667	
Marriages		4003.	

Extracts from the registers, kept at *Orleans*, and *Pluviers*, for 1748.

January, at *Orleans*, the sudden change of the weather, from being mild and moist to intense cold, brought several *rheums*, peripneumonies, suffocating catarrhs, asthmas and apoplexies; the *rheums* were here complicated with spitting of blood, and violent cough; bleeding in the arm, softening and pectoral ptisanes, apozemes, and *loboc's*, with a good

good deal of the syrup of white poppies seemed to be what succeeded best in these disorders. *Pluviers*, the same epidemics raged at *Pluviers*, and in the *Environs*, there were besides some putrid fevers.

February, at *Orleans*, they were greatly afflicted with serous apoplexies, palsies, and other comatous affections; those troubled, with chronic disorders complain'd almost universally of giddiness, weight on their head, and numbness; and it is not the old and infirm only that were thus affected; the young from 8 to 16, were seized with those mortal apoplexies, they have had likewise some of the disorders of the season, such as *rheums*, peripneumonies, rheumatisms; the intermittents of the year before, and which returned often in winter, seemed now to leave us.

Pluviers, the same disorders reigned here and in the *Environs*, there were besides on the back of the forest of *Orleans* several intermittents, which were easily cured.

March, at *Orleans*, in the general, there were no sick; yet some small-poxes, sore throats, and quinsies were to be seen, which required only a bleeding and some gentle purging, but to be repeated.

Some intermittents returned.

Pluviers, there were discrete small-poxes, scarlet fevers, *erysipelas's* and towards *Boenne*, pleurifies, peripneumonies; bleeding was observed

served to do mischief, but the *polygala virginiana*, and blisters succeeded very well; in the *Environs*, there were some fevers, with inflammation of the bowels, and some women died in child-bed.

April. At *Orleans*, Intermittents of all kinds, which had left us for a time, became now very common, and rebellious, there were besides, a great many sore throats, and the most terrible quinsies, which carried off some in 24 hours; two children one 6, the other 11 years old, were opened; the inner membrane of the *trachæa* was found separated, and formed into a roll, 3 or 4 fingers breadth long, and as thick as parchment, and whitish; it appeared to be the *sac* of the abscess, which had been formed at the bifurcation of the *trachæa*; there was some *pus* still in this *sac*; upon its bursting, the *pus* fell into the *bronchia*, which upon the least pressure on the lungs, came away in great plenty; the symptoms that accompanied this direful malady were a violent fever, a hoarse cough, and a frightful rattling in the throat; they had been blooded 4 times, and that almost one after another, the first was in the foot, two others in the arm, and one in the jugular, all which yielded a momentary relief only; the first child died in 24 hours, the 2d lived 4 days, and after some bleedings, had an emetic given him, which emptied him plentifully; he died notwithstanding.

Pluviers,

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Pluviers, there were discrete small-poxes, scarlet fevers, *erysipelas's* and towards *Boenne*, pleurifies, peripneumonies; bleeding was observed

served to do mischief, but the *polygala virginiana*, and blisters succeeded very well; in the *Environs*, there were some fevers, with inflammation of the bowels, and some women died in child-bed.

April. At *Orleans*, Intermittents of all kinds, which had left us for a time, became now very common, and rebellious, there were besides, a great many sore throats, and the most terrible quinsies, which carried off some in 24 hours; two children one 6, the other 11 years old, were opened; the inner membrane of the *trachæa* was found separated, and formed into a roll, 3 or 4 fingers breadth long, and as thick as parchment, and whitish; it appeared to be the *sac* of the abscess, which had been formed at the bifurcation of the *trachæa*; there was some *pus* still in this *sac*; upon its bursting, the *pus* fell into the *bronchia*, which upon the least pressure on the lungs, came away in great plenty; the symptoms that accompanied this direful malady were a violent fever, a hoarse cough, and a frightful rattling in the throat; they had been bled 4 times, and that almost one after another, the first was in the foot, two others in the arm, and one in the jugular, all which yielded a momentary relief only; the first child died in 24 hours, the 2d lived 4 days, and after some bleedings, had an emetic given him, which emptied him plentifully; he died notwithstanding.

Pluviers,

Pluviers, a great many discrete small-poxes, and in the *Environs* very bad pleurifies, and peripneumonies; an emetic given early, preceded by some bleedings, prevented a flux, which used to carry them off.

May at Orleans, disorders of every kind were now very common; intermittents of all kinds, continual fevers, with violent pains in the head, and kidneys, together with a general tension of the skin; there were a great many small-poxes, those of the confluent kind were very dangerous, and were complicated with purple spots.

As these disorders seemed to proceed from great irritation, they were bled often, before they were purged, which answered very well, even in the small-pox, which on account of the symptoms accompanying it, required reiterated bleeding.

Pluviers, there were here double tertians, pleurifies, discrete small-poxes, rarely confluent; reiterated bleeding, vomits and anodyne draughts were found to agree best; cordials were seldom called in; in the *Environs* the measles, some intermittents, and some boils.

June, at Orleans, the disorders of the last month raged still violently, and were attended with great heat and irritation, which made it necessary to dilute plentifully, and continue the same for some time, before the sick cou'd be purged; and even then the mildest only cou'd be

be employed ; bleeding in the small-poxes of this year was indispensably necessary ; the pustules came out, even upon the bleeding, without which they never cou'd, on account of the general great tension of the skin. Strong cordials were never employed ; partly root-boiled in milk was of infinite service in the eruptive state, for by exciting a gentle breathing sweat, it promoted greatly the eruption. The measles required reiterated bleedings and plenty of dilution ; the general indication now was to cool, dilute and sweeten the juices, and procure rest.

Pluviers. The small-pox remained with us and still of the discrete kind. In the *Environs*, measles, pleurifies, quinsies, agues, fluxes.

July at Orleans. The small-pox still keeps its ground ; it became more dangerous during the cold weather we had the beginning of *July*, but towards the end of the month, the weather grew warm again, which assisted the eruption. It was observable that this epidemic communicated itself, from North to South ; for the suburbs of *Banier* to the North was full of the small-pox, tho' there was none in the town ; it so gradually directed its course South, that one cou'd easily foretel it wou'd reach such a place in such a time, and it always happened so ; it stopped at last in the *Potters-ward*, where it spread itself, after it had passed the river ; the former cold occasi-

on'd some very bad pleurifies, but the intermittents and small-pox are our reigning epidemics.

Pluviers. A good many small-poxes, both discrete and confluent, which when accompanied with a flux, were mortal; such as left town to avoid them, were nevertheless seized with them in the country; the gangrene which appeared in the arms and legs of some of the sick, was speedily stopp'd by the bark.

In the *Environs*, inflammation of the bowels, fluxes, discrete small-poxes.

August at Orleans. The small-pox still continues; it is not dangerous among the better sort, who suffer their children to be blooded, but among the lower class, who are averse to bleeding, and as imprudently fond of giving cordials, it is almost always complicated with purples; the inflammation increasing to that pitch, that very few escape. Some fluxes and dysenteries begin to make their appearance.

Pluviers. The small-pox still keeps its ground; there are some of the confluent kind among them; but what afflicts us most is a putrid fever; it however submits to bleeding and reiterated purging. In the *Environs* some fevers, fluxes, carbuncles or boils.

September at Orleans. The small-pox continues still very mortal, among the lower class of the people, because they will not bleed before the eruption.

The

The dysentery ravages the country round us; we have not seen these many years so many, and so dangerous inflammatory disorders; purging succeeded better with us last year than bleeding; it is the reverse this year; we are obliged to bleed a great deal, and not purge, 'till very late; we shou'd not otherwise succeed.

Pluviers. Some *measles*, double tertians and fluxes.

In the *Environs* the small-pox, both discrete and confluent, complicated with miliary eruptions, and comatous affections; in this last case, blisters sometimes succeeded. Some continual fevers, some malignant ones, and dysenteries were seen at *Beauce*.

October at Orleans. The same epidemics still subsist, but they are milder and more governable; the dysentery and small-pox, which before carried off so many, are not attended with the same bad symptoms, or irritation.

A most extraordinary disorder has reigned at *Sologne* since harvest; they have given it the name of *ergot*, from the resemblance the grain that produced it, has to an *ergot* (a cock's spur); this *ergot* or grain is a mildewed, or corrupted rye; for it is to be found among no other grain but rye; for in *Beauce*, where they have no other grain but wheat, it is not known; however, it has proved the rankest of poisons: it is true, it does not kill

suddenly, as some corrosive and coagulating poisons are known to do ; but it insensibly changes the whole mass of blood, giving it a putrid gangrenous quality, which manifests itself first, in the feet and legs, in painful lassitudes with livid spots, which soon become ulcers, ending in a gangrene, rather dry than moist, in which are sometimes seen worms ; at last, the toes begin to drop off, the metatarsis and foot fall off soon after, as does the leg ; and even the *femur* quits its articulation ; the upper extremities fall off in the same manner. Some have been seen in the *Hôtel Dieu* of *Sologne* to live several weeks with only the trunk of the body ; the reason is this, no hemorrhage happens, upon the dropping off of the limbs ; the parts are sphacelated, and the circulation abolished for many days, before the limbs fall off ; they cou'd not hitherto stop the progress of this gangrenous malady ; above sixty died already ; the Physicians say, they are applied to too late, when the disorder is incurable. M. *Arnaud* of *Orleans*, who gives the above account of this distemper, cou'd say nothing of it from his own knowledge, as he had not seen it, but says, he had been informed, that some charitable folks at *Sologne*, who dispense medicines to the poor, had cured a good many, by directing a bleeding or two, to relieve the pains they complained of in their feet and legs, and giving

ving them after some cordials, and vulnerary infusions ; but particularly good bread, and other proper food. M. *Salerne* correspondent of the Academy proposes to make some experiments relative to this distemper, and to communicate his observations thereon to the Academy. It is said, that this same corrupted rye produces the above disorder when it is new only ; for after it has been heated, it is no longer hurtful *.

Pluviers. Some small-poxes of the discrete kind, and some intermittents, also some malignant fevers, lethargies and inflammatory fevers of the bowels ; besides these epidemics, there were some pleurisies, *erysipelas's*, fore-throats and dysenteries at *Puisseaux*, a neighbouring village.

November at Orleans. The former epidemics still continue, but not so common ; the dysentery degenerated very often into universal rheumatisms, complicated in some with both fever and heat, and in others with œdematous swellings of the joints ; bleeding assisted with diluting and gentle aperitive apozemes, succeeded well.

* This is not the first and only time the inhabitants in and about *Sologne* have been afflicted by this direful malady. M. *Perrault* passing thro' *Sologne* in 1676, was informed by the Physicians of that place, that the like corrupted rye had produced the very same effects here described, with this difference only, that the gangrene in 1676, was not preceded by an inflammation or considerable pain, but the gangrened parts fell off of themselves, as in those in 1748.

Plu-

Pluviers, and in the *Environs*. The epidemics of the last month still subsisted. The *vitrum antimonij ceratum* has been employed with success in all dysenteries.

December at Orleans. There are few other disorders but those rheumatisms, the dysenteries of the last month degenerated into ; the small-pox still kept its ground, tho' the season seemed contrary to it. The 9th, the weather which was hitherto pretty cold, changed to rain, and continued so to the end of the month ; the barometer fell all of a sudden, from 28 to 26 8, in so much, that it fell in two days, one inch four lines. Probably to this sudden and extraordinary change in the weight of the atmosphere, was owing the many sudden deaths, which now happened ; those persons not being able to support so great and sudden a change in the weight of the atmosphere.

Pluviers. We had some intermittents, *rheums*, chin-coughs, fore-throats and scarlet fevers. In the *Environs* some very bad small-poxes ; it was observable, that cordials rather increased the symptoms of the small-poxes of this year, except when they were complicated with a flux ; cordials then were of use.

Tho' epidemic diseases proceed from other causes, besides the air, we must confess, these same disorders are oftner owing to the vicissitudes in the sensible qualities of the air, than

to

to any other cause, as was before taken notice of *.

Among the other qualities of the air, productive of these diseases, a variation in the pressure or weight, elasticity or spring of the air is a very fertile cause.

The ancient Physicians knew nothing of these two qualities of the air, its *gravity* and *elasticity*, tho' it appears by their writings that they had some notion of their effects on organiz'd bodies; the knowledge of these qualities is one of those acquisitions, physic has made in the last centuries, which has let a vast deal of light into both the theory and practice of physic.

When we say, that the ancient Physicians knew nothing of the *gravity* and *elasticity* of the air, we wou'd be understood to mean *Hippocrates* and his contemporaries, and their successors; for it is certain, those properties of the air were well known before *Hippocrates* his time. *Empedocles* attributed to the gravity of the air the phenomenon of the *syphon*, in which the water remain'd suspended, while he kept his finger on its orifice †.

We say the ancient Physicians knew the effects of the properties of the air, without knowing the cause. It is of these effects, of the gravity of the air, that *Hippocrates* speaks ‡, when

* See p. 216.

† Vid. Arist. de respirat. c. 7.

‡ πεπληρωμενον μειον τε κ' πο ωλειον. Epid. l. 6. §. 8.

when he recommends to observe, whether the air is *full*, and whether it fills more or less; for as the exterior air, that presses on us on all sides is more or less full, as *Hippocrates* phrases it, or is more or less heavy, the interior air mixed with our blood, which supports the weight of this external air, and which is constantly endeavoring to expand itself in the vessels, is more or less compressed, in so much, that we sensibly perceive ourselves at certain times *fuller*, especially in the head, upon certain changes of the weather.

We have seen before, page 179. that a body 5 foot 5 inches (which is equal to a surface of 16 feet square), supports a column of air, equal to 31500 pounds weight, when the barometer stands at 28 inches, and that a variation of one inch in the barometer makes a difference in the pressure of the air of 1000 pounds weight; it is therefore sufficiently obvious, that when the external air loses considerably of its weight, the internal air mixed with the blood and juices of all animals, being now no longer sufficiently compressed by the external air, must from its own inherent elastic quality, expand itself.

This effect of the internal air, constantly endeavoring to distend the vessels it is contained in, did not escape *Hippocrates*; he called it *, *impetum facientia*. This internal air
mixed

* ὀρμητική.

mixed with our blood, is constantly kept, by the natural heat of the body, in an expansive state, and is as constantly making continual efforts to dilate, and distend the vessels, which if it was not as constantly compressed by the external air, wou'd be productive of many fatal consequences, and even of death*.

* An instance of the fatal effects of rarefied air, happened some years ago (1710) at *Chartres*: A baker carried some embers out of his oven into his vault, his son, a heal strong man, went to carry more embers; when he got to the bottom of the vault, he cried out for help, but was heard no more. His brother, another strong man, went to pull him up, he also cried out, but was heard no more; this brother's wife went to the assistance of her husband, and the servant maid after her; they all shared the same fate. This *catastrophe* alarmed the neighbourhood; but no body appeared willing to go into this vault, one however, more compassionate and intrepid than the rest, who cou'd not be persuaded, that all four were dead, went down; he also cried out, like the rest, but was heard no more. Some body, who was going by, called for a grappling hook, with which he pulled up the servant maid; when she came into the open air, she gave one sigh; they opened the vein, but the blood wou'd not come; she died instantly.

Next day a country man, and a friend of the baker's, said he wou'd pull up the bodies with the grappling hook; but for the greater security he had himself tied round the middle with a rope, fixed in a pully, with directions to pull him up, the instant he cried out; he did not go far, when he cried out; they pulled him up that instant, but the rope broke unfortunately, and tho' it was spliced with all possible speed, he was dead when they pulled him up; his brain, upon opening him, was found quite dry, and the *meninges* greatly distended; several livid spots were seen on his lungs; the intestines seemed inflamed and swelled to the thickness of one's arm; but what is still more extraordinary, all the muscles of both extremities were found separated, as if they had been dissected; the other bodies became so rotten, that there was no examining them.

The other sensible properties of the air, such as its dryness and moisture, cold and heat, were well understood, in all ages. The old Physicians made use of these sensible qualities of the air in accounting for the causes of disorders, and investigating the proper method of cure. Of all the properties of the air, its dryness and moisture are the most easily discoverable, by reason every thing about us manifest those qualities; but it is not so easy to discover the gravity of the air, or its heat and cold, especially if they are not very sensible; besides, heat and cold are relative qualities, with respect to those who feel them, whereas dryness and moisture are positive qualities, no way depending on us; and on that account, it is more difficult to discover, with any preciseness, the degrees of dryness and moisture than even those of the heat and cold, levity or gravity of the air; for our hygrometers are not near so exact as our thermometers and barometers.

As therefore, all animal bodies in the air may be properly enough said to be in a *bagnio*, so they must necessarily be affected by this *bagnio*, as it happens to be moist or dry, cold or hot.

In the general, a dry air is more wholesome than a moist air; a dry air is more air, less mixed with the emanations from all the bodies that are in it; this made *Celsus* say, *the dry-*

dryness of the air makes the serenity of the season.

On the contrary, a moist air, being loaded with heterogeneous particles, is more productive of corruption; it is on this account, that we find more diseases in moist than in dry weather.

Dry weather is in like manner, productive of some disorders; but they are of a shorter duration, especially in plegmatic habits and in women, who in the general, are of a more lax habit. This same *dry* constitution of the air is injurious to dry, bilious habits; for by thickening the *bile*, its principles are exalted, whence often ensue very dangerous bilious, and other inflammatory fevers. A moist air on the contrary, lengthens the period of disorders, by superinducing a general relaxation in all the vascular system, whence a langor in the circulation of the blood and juices circulating with it; secretion and depuration will of course be slowly and imperfectly carried on, the humors stagnating in their vessels soon corrupt; whence the most of our malignant epidemic disorders proceed.

The same moist constitution of the air is the constant parent of all catarrhus defluxions, dropfies, palsies, and generally of all such disorders, as proceed from a relaxation of the vascular system. The opposite constitution is as productive of bilious, inflammatory dis-

orders, erisipelas's, dry *ophthalmias*, consumptions, &c. by rendering the humors acrimonious, and drying up the vessels too much.

January 1749. The air was extraordinarily moist, nor was it seasonably cold, and this temperature of the air was pretty even.

The thermometer was almost always at 6 deg. above freezing; it was never lower than at 2, and that in the morning, but it rose again to 9 deg. the afternoon of the same day; the barometer was changeable, varying often in the same day; it stood for the most part at $27\frac{1}{2}$. it rose to 28, the 15th and 16th only; the weather was those days, as fine, as the finest days in *April*; on the 22d it fell to 26 in. 8 lin. the wind was that day South West, and threatened as if there wou'd be rain, and yet this day was dry, and the sky clear.

The wind was mostly South West, sometimes South and West, rarely North, and but one day North East; there were very violent hurricanes this month, as we generally have at the *Equinoxes*.

Tho' the weather was not as it usually is at this season, yet we had no epidemic disorders this month, owing probably to the great evenness in the temperature of the air. It has been long since observed, that epidemics are generally owing to the sudden changes in the temperature of the air; we however, had some of the measles and small-poxes of the last year

year, but they were of a good kind. It was now observable that the measles affected the lower extremities more this month than usual. There were some cutaneous disorders to be seen, and indeed most of the sick in this month were greatly inclined to sweat.

Some fore-throats, defluxions on the head, and some rebellious fluxes were seen, and more *ophthalmia's* than usual, which probably was owing to the high winds we had this month.

There were some continual fevers, accompanied with some confusion in the head, and which manifested more a delirious than a drowsy affection; most of these had bilious fluxes, but none had any convulsive twitches; these were rather encouraged than stopped, and in some they remained after they were up with no other inconvenience than the retarding for some time the recovery of their strength.

The depth of the rain was 1 inch, 8 lin. $\frac{2}{6}$.

Sick in *Hotel Dieu* 3357.

Sick received 1941.

Burials 1370, males 696, females 674.

Legitimate	} Births	1624, boys 865, girls 759.	} total
Illegitimate		301, boys 157, girls 144.	

Marriages 442.

February. The weather was colder this than the last month, and every night there was a little frost.

The thermometer was mostly this month
be-

between 2 and 5 deg. above freezing; it fell to $6\frac{1}{2}$ below freezing the 8, 9 and 10th, the wind being then North; the barometer was changeable, between $27\frac{1}{2}$ and 28; the 16th, it fell to 26 in. 10 lin. the wind was mostly South West, sometimes West, very rarely East, and on the last days of the month it was northerly.

The wind changing suddenly the 7th to the North East, brought *rheums*, which lasted the whole month; we had showers of hail, such as we have in *March*; the sun was warmer from the 20th to the 26th, than usual; after this we had some white frost; the weather was then as fine as it is the finest days in *April*; tho' the sun was warm, yet the weather was cold, the wind blowing from the East or North East, or North, that day. We had now several defluxions on the head and eyes; some catarrhal fevers, and pleurifies; some acute fore-throats, and *erysipelas's*, with and without a fever; all which readily submitted to the usual treatment.

There appeared at this time in the *Environs* of *Paris*, particularly at *Meudon* (2 leagues West of *Paris*) a very dangerous and mortal fever, which carried off numbers in 4 days time; some in 24, and some in 6 hours.

This fever seized the sick in such a manner that its symptoms changed every instant; the patient was without head-ach, yet he was sometime delirious; most of the sick complained

plained of flying pains in their sides, stomach and kidneys; and when the pain left those parts, the lungs were then engaged, and some of these died in half an hour after.

Many voided round worms; the urine of all of them was of the color and consistence of syrup of *capillaire*, in which were seen floating some white substance; when this urine had stood a while, it became both red and clear; this kind of urine is common in scurvies*; the pulse wou'd surprizingly change in 3 minutes time; it was violent at first, all of a sudden it was not to be felt, presently after, it became a leaping pulse, and soon after it wou'd intermit; in short, it wou'd be both high and quick, as it is observed to be in the exacerbation of any common fever. The manner some were seized was by a relaxation of the *uvula*, without any apparent inflammation of the throat; those had a great difficulty to breathe.

Such as were not early enough blooded, were the most in danger; the blood looked like chickens blood; such as recovered, tho' they had not been blooded, used to fall into such *Langors*, as made those about them apprehend they were dying; yet all of a sudden, they return'd as from death to life. It was seen in *March* following at *Passy* near *Paris*.

The

* See Eugalen. de scurbuto.

The depth of the rain was 1 inch, 9 lin. $\frac{2}{8}$.

Sick in *Hotel Dieu* 3457.

Sick received 1679.

Burials 1292, males 688, females 604.

Legitimate } Births 1612, boys 823, girls 789. } total
 Illegitimate } 312, boys 171, girls 141. } 1924.

Marriages 605.

March. The weather was pretty mild for the season; the thermometer rose the 15th to 14 deg. above freezing; but the 28th, it fell to $3\frac{1}{2}$ below freezing; this was the coldest day in this month.

The barometer was changeable all this month, from 28 in. 1 lin. to 27 in. 4 lin. mostly at 27 in. 7 lin. Tho' the wind was North East for 8 days in the beginning, and for 8 days more at the end, yet the weather was very moist in *March*; the remainder of the month, the wind was either S. E. or S. W. and sometimes West.

We had this month, several stubborn *rheums*, and some dangerous pleurifies; we had likewise some gangrenous fore-throats, nearly a kin to those the children have been afflicted with those years past.

The *measles* of the former month still kept their ground, and were of the same character with them; for here also the redness remained a long time on the chin.

What happened this month in some churches in *Paris*, fully evinces the ill consequences of burying in the church, and opening old church-

church-yard grounds. They dug up this winter all the earth in the *isle* of St. *Eustachius's* church to vault it; in so doing they were under the necessity of removing all the bodies buried there; and among those some very lately interr'd; all which they laid behind the church, with very little earth over them; such as were brought to be buried in the church during this time, were laid in a vault under the *charnel-house*, which had not been opened for a considerable time, there to remain, 'till the vaults in the *isle* were finished.

The 7th of *March* the children of the parish being at catechism, the *charnel-house* were for the most part all seized with faintings, in which they lost their senses, their faces became intensely red, some violent motion was observable about the middle of their bodies, their arms and legs were lightly convulsed; when they came to themselves, they were ask'd, where they ailed; they said they felt a pain in their stomach, and something rising up into their throat, which prevented their drawing their breath; many of them remained very ill, but none died; the *Sunday* following during the catechism in the same place, some 20 more fell ill in the same way as before; and about an hour after during *vespers*, some grown up people, who stood near the *charnel-house* were taken ill; among those a young woman first, and an old woman after fell down, without

uttering a word, tho' they appeared to have retained their senses; but cou'd not breath; their *thrachæa* seemed as if they had been strangled; their faces were red.

About a week after, several children were taken ill, in the same manner, at St. *Perrine's*, tho' not quite so bad; this house had been formerly a convent of Nuns; but being united to another of the same order, they removed the bodies interred there, which gave occasion to the above malady; the house was let after to a ribband manufacturer, who employed a great many little girls; it was they that were taken ill; for it was observable that no grown up boys or men were affected, none but children and women.

The depth of the rain was 1 inch. 2 lin. $\frac{4}{6}$.

Sick in *Hotel Dieu* 3579.

Sick received 2079.

Burials 1548. males 828. females 720.

Legitimate	} Births	1800. boys 896. girls 904.	} total
Illegitimate		400. boys 192. girls 208.	
Marriages		36.	

April. This year was temperate as to cold and moisture, as it usually is; it was not so moist in proportion as the preceding months; the thermometer stood mostly all this month at 8 deg. above freezing, the lowest it fell to was to 2 above freezing; the barometer stood mostly at 27 $\frac{1}{2}$. the highest it rose to was 27 10, which was on the 28th, the wind that day being south.

The

The wind was changeable this month, blowing often from several points of the compass at the same time.

Several were seized in the beginning of April with a fever, complicated with pains in their arms and legs; the hot fit which followed lasted in some three or four days, in others it abated in 24 hours, the cold fit would return in a few hours after, forming in some, a quotidian, in others a tertian.

We had likewise some stubborn *rheums*, some of them turned to peripneumonies, some had pleurifies with spitting of blood.

Several children were seized with the chin-cough, the humor that occasioned it fell behind the ears of some, forming there little tumors; numbers of people were known to fall into faintings, and many of them to lose their senses, and others to be seized with very extraordinary giddiness; there were some apoplexies and sudden deaths.

The depth of the rain was 2 in. $\frac{3}{8}$ lin.

Sick in *Hôtel Dieu* 3575.

Sick received 1818.

Burials 1725. males 912. females 813.

Legitimate	} Births	1553. boys 794. girls 759.	} total
Illegitimate		303. boys 151. girls 152.	

Marriages 329.

May. The weather in the general was fine, rather dry than moist; we had a great deal of rain on the 20th, and some thunder, all to this, the weather was seasonable enough; there

was a little white frost the 11th and 12th, and a pretty smart one the 14th, which made some apprehensive the vines wou'd suffer.

The 15th was the coldest day this month ; the thermometer fell to 5 above, and the 28th, the hottest, the thermometer rose that day to 24 deg. above freezing ; the barometer was at 27 $\frac{11}{16}$. the wind then was at E. and N. E. but it stood mostly at 27 $\frac{8}{16}$. during this month the wind blew from all quarters, but the east, north east and north winds rained chiefly ; it was observable that the coldest winds in other months were the warmest winds in this, which is the more extraordinary, as the preceding winter in the northern countries was very cold ; the southerly winds were this month the coldest, which are usually the warmest.

We had in *May* several peripneumonies, and stubborn *rheums*, accompanied with heat in the chest, the north winds have been in all ages, reputed injurious to the lungs, and tho' the north winds prevailed this month, it cou'd not be said they were injurious on account of the cold, for they were rather warm ; the south winds, which this month were cold, must have produced those *rheums*.

It was observable that all the sick complained of pains in the head, which extended down their neck ; we had more of those peripneumonies this month, than in all the preceding winter.

The

The fore throats of this month were likewise complicated with pains in the exterior parts of the head; we had likewise some of those erysipelatous and gangrenous fore throats, which till now attacked children only; persons of all ages were now seized with them; many of the sick threw up some portions of the inner membrane, that lines the *trachæa*; upon looking into their mouth, there was often found a purulent lymph, even from the very beginning of the disorder; there were likewise some intermittents.

The depth of the rain was 1 in. 6 $\frac{1}{2}$ lin.

Sick in <i>Hotel Dieu</i>	3456.			
Sick received	2026.			
Burials 1645.	males 883.	females 762.		
Legitimate	} Births	1683. boys 836.	girls 847.	} total
Illegitimate		334. boys 182.	girls 152.	
Marriages		396.		

June. The air in the beginning was warm, as it had been the last days in *May*, the thermometer rose the 4th in the afternoon to 22 deg. above freezing; this was the highest it rose to this month; and yet we had thunder and lightning and heavy rains this same day.

The weather changing after, became sensibly cold; the 27th, the thermometer fell to 7 deg. above freezing, the lowest it fell to this month; the barometer was very changeable this month, seldom one day at the same height, the highest it was at, was at 27 10, and

and that on the 20th, the wind that day being north-east; the lowest it fell to was 26 II. and that on the 5th, the wind at west, and the weather moist; the winds were much higher in *June* than usual, but changeable, being mostly west, it was one day only east; the air in the general was not so dry as usual; for it rained a good deal.

The stubborn *rheums* of the preceding months, the measles and some fevers were still common; most of those *rheums* were accompanied with confusions in the head; it was observable that such *rheums*, as went off without some evacuations, were succeeded by wandering pains in the limbs; towards the end of the month, they became milder.

The measles were attended this month with swelled faces, the redness remained a considerable time after, particularly on the chin.

It is here to be observed, that the above erysipelatous sore throats, which reigned along with the measles, were attended with a redness on the upper part of the chest, towards the neck and on the arms, which upon pressing on it wou'd disappear, but wou'd become red again; those sore-throats commonly began with a confusion in the head, an inclination to puke, and a languor of the whole body; some wou'd even faint; one in particular had all those symptoms, which disappeared upon a pain-

painful swelling, seizing the right hand and left foot.

We had some *erysipelas's* without a fore-throat; but the eyes were swelled, and had often very sore pimples under the lids; when those *erysipelas's* went off, the sick complained of a stiffness and swelling in the muscles of the neck, but more towards one of the shoulders.

Fevers of all kinds were seen this month, and a great many peripneumonies in the *Hotel Dieu*.

The depth of the rain was 1 inch. 8 lin. $\frac{2}{8}$.

Sick in *Hotel Dieu* 3266.

Sick received 1602.

Burials 1421. males 745, females 676.

Legitimate } Births 1561. boys 810. girls 751. } total

Illegitimate } 319. boys 156. girls 163. } 1880.

Marriages 335.

July. Both the wind and barometer very changeable, the wind mostly west, but the 3 last days, it blew violently from the S. W. the barometer stood mostly at 27 9. the lowest it was at was 27 $\frac{1}{2}$. the barometer was mostly about 15 deg. above freezing, the lowest it fell to was 12 deg. and the highest was 23 deg. above freezing.

We had few sick in *July*, yet there were some *erysipelas's*, some bilious fevers, complicated with a continual head-ach; and fore-throats.

We had likewise some small-poxes and measles, which had nothing extraordinary attending

tending them ; save that they were slow in coming out ; they never appeared till the 4th day.

The depth of the rain was 1 in. 6 $\frac{3}{8}$ lin.

Sick in *Hotel Dieu* 3148.

Sick received 1677.

Burials 1568. males 860. females 708.

Legitimate	} Births	1442,	boys 836,	girls 706.	} total
Illegitimate		388.	boys 154.	girls 134.	

Marriages 449.

August was dry, tho' it had rained a good deal ; tho' it rained but seldom, yet when it did, it was heavily ; the night of the 9th to the 10th, we had very violent thunder, and it rained very heavily ; the barometer stood then at 27 $\frac{1}{2}$, and the wind at south-west ; the wind was very changeable all this month, but it kept mostly at W. as to the temperature of the air, it was pretty natural ; the hottest day this month was the 8th, the thermometer was this day at 22 deg. above freezing, and the lowest it was at, was at 11 deg. the barometer was this day the 27th, at 27 $\frac{1}{2}$, but it stood mostly at 27 in. 8 lin.

We had few sick this month ; the *erysipelas's* and sore throats of the last were still to be seen in the beginning, as were some cutaneous disorders, with which bitter infusions agreed better than coolers ; the rheumatisms of this month were relieved, upon the appearance of the *erysipelas* ; we had some apoplexies, the small-pox and *measles* still subsisted, and towards

wards the end of the month, intermittents of all kinds, which had nothing extraordinary in them.

But the epidemic that raged most was the *dysentery*, which was complicated in some with pains in the bowels; and with a *tenesmus* in others, but it was no way dangerous; what was most remarkable is, that the better sort only were affected, while the lower class were seldom affected; and what is still more extraordinary, St. Charles's ward in the *Hotel Dieu*, remarkable for having most of those epidemic disorders in it, had not one ill of this *dysentery*.

The depth of the rain was 1 inch. 10 lin. $\frac{1}{8}$.

Sick in *Hôtel Dieu* 2898.

Sick received 1614.

Burials 1471, males 803, females 668.

Legitimate } Births 1592, boys 809, girls 783. } total

Illegitimate } 302. boys 136, girls 166. } 1894.

Marriages 306.

September. Tho' the weather was very temperate as to heat and cold, yet it was rather warm than cold; the 22d, was the coldest day; the thermometer was this day at $8 \frac{1}{2}$ above freezing, and the barometer at 27, 7. and the wind at south-west; the warmest days were the 2d and 16th; the thermometer rose those days to 22 deg. above freezing; the wind at S. W. tho' the barometer was changeable, yet its variations were no way considerable, it commonly stood at 27, 8. never higher than 27, 10, never lower than 27, 2 $\frac{1}{2}$. and

that the last day of the month, the wind being at east and south east; the clouds this day were very high, and yet it rained.

September was rather dry; for the air was not sensibly moist, but the 3 last days; the south-west wind, which commonly brings rain with it at *Paris*, was dry this month, all to the 28 and 29th; the 30th it rained a good deal, by an easterly and southerly wind.

The wind was not high all this month, very often there was no wind; if there was any, it was on the ground only; but no wind was seen to waft the clouds.

The sudden change in the temperature of the air, occasioned by the north-east wind the 6th, and which continued in the same point till the 10th, by suddenly cooling the air, several were greatly affected, the more so, as their blood had been a good deal rarefied by the preceding warm weather; this sudden change in the temperature of the air, as suddenly brought on *rheums*, chin-coughs, pleurifies with spitting of blood; some gouty rheumatisms, according to the different constitutions of the persons, that were affected by that change in the weather.

We had likewise measles of the same character of the preceding ones, that is, such as were tedious in coming out, and more so in their departure. M. *Chevalier* informed M. *Malouin*, that he had seen some of those measles,

fles, where after they had quite disappeared, returned again, with all their former symptoms.

There were some small-poxes, which tho' some were confluent, were no way dangerous; there were likewise some fluxes with *teneismus*, and some *dysenteries* of the preceding month still to be seen.

The depth of the rain was 9 lin. $\frac{2}{3}$ only.

Sick in *Hotel Dieu* 2924.

Sick received 1674.

Burials 1563. males 820. females 743.

Legitimate	} Births	1592. boys 823. girls 769.	} total
Illegitimate		310. boys 163. girls 147.	

Marriages 419.

October. The weather was this month temperate, all to the 25th, and 26th, which were considerably cold. The thermometer fell during those 2 days a little below freezing, and the barometer stood between 27, 9. and 27, 10. there was frost the same days; the wind N. E. and E. the atmosphere was heavier this month than usual; the barometer was mostly at 28 inches, the highest was at 28, 3. which was on the 22d, the wind was N. E. and very dry, the lowest it was at, was 27 $\frac{1}{2}$. which was on the 10th in the morning, the wind N. E. but it rose the same evening to 27, 11 $\frac{1}{2}$.

The weather in general was dry, for very little rain fell this month; the wind mostly at E. and N. E. sometimes W. rarely S.

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There were some small-poxes, which tho' some were confluent, were no way dangerous; there were likewise some fluxes with *teneismus*, and some *dysenteries* of the preceding month still to be seen.

The depth of the rain was 9 lin. $\frac{2}{3}$ only.

Sick in *Hotel Dieu* 2924.

Sick received 1674.

Burials 1563. males 820. females 743.

Legitimate } Births 1592. boys 823. girls 769. } total
Illegitimate } 310. boys 163. girls 147. } 1902.

Marriages 419.

October. The weather was this month temperate, all to the 25th, and 26th, which were considerably cold. The thermometer fell during those 2 days a little below freezing, and the barometer stood between 27, 9. and 27, 10. there was frost the same days; the wind N. E. and E. the atmosphere was heavier this month than usual; the barometer was mostly at 28 inches, the highest was at 28, 3. which was on the 22d, the wind was N. E. and very dry, the lowest it was at, was 27 $\frac{1}{2}$. which was on the 10th in the morning, the wind N. E. but it rose the same evening to 27, 11 $\frac{1}{2}$.

The weather in general was dry, for very little rain fell this month; the wind mostly at E. and N. E. sometimes W. rarely S.

We had some intermittents, quotidians, tertians and double tertians; and some continual fevers, some of which appeared to be malignant.

We had likewise some *erysipelas's* and a good many cutaneous disorders; it was observable, that such as eat *pilchers* for some days during this cutaneous epidemic, had some appearances like the itch; a salt air, or too great use of salt food are known to give the itch; it is on this account, that those of *Brittany* and *Scotland* are so subject to the itch.

The small-pox still kept its ground, but was no way dangerous, except in scorbutic or pocky constitutions.

The sudden and intense cold of the weather at the end of the month occasioned some pleurifies, but they were not so inflammatory as usual; blisters were found serviceable in those pleurifies, complicated with a head-ach, but as blisters seemed to recall both the stitch and cough, they were laid aside, the sick were treated after in the usual manner*; some of the sick were several hours without a fever; but it used to return after with the greatest violence, especially on the critical days, which has been often before observed since *Hippocrates* his time, to be a true characteristic of epidemics.

There

* Quær. Had the sick been blistered on the part, might not the blisters equally remove the stitch as they did before the head-ach?

There have been more sore breasts and cancers this year than usual.

The depth of the rain was 1 in. 4 $\frac{1}{2}$ lin.

Sick in *Hotel Dieu* 3987.

Sick received 1500.

Burials 1503. males 821. females 682.

Legitimate } Births 1570. boys 782. girls 788. } total

Illegitimate } 317. boys 172. girls 145. } 1887.

Marriages 370.

November. The weather was moist, tho' there fell but little rain, but it was very foggy, and continued so the last 15 days; and tho' those fogs were very thick, yet they had no bad smell, nor did they offend the eyes, as some fogs are known to do; they were only moist and cold; the sky was cloudy all this month, being always covered either with clouds, or with fogs; the sun was 12 days successively without making his appearance, in so much that the afternoons were as cold as the mornings; there were pretty hard white frosts almost every night, during this month, so that the month of *November* this year was excessive cold; the thermometer fell below freezing the 6 last days of this month; in the beginning, the air was light, the barometer stood at 27, 2 $\frac{1}{2}$. the last days it was heavy; the barometer was then at 28. and the 29th and 30th, at 28 inch. 3 lines.

The wind was pretty steady this month; the last 6 days it kept at East, without changing; the

the 6 days before it was as constant to the south, and the 3 first days it was west, the rest of the time it was S. E. or S. W. and never north this month.

Our pleurifies were either very easily cured, or were very dangerous ; we had likewise some *rheums*, and other catarrhal maladies ; such as fore-throats, which were very rife at *St. Germain en-Ley* ; the matter was often translated from the *fauces* to the testicles ; some small-poxes, fluxes and *dysenteries* were also seen.

We had some apoplexies, and some whose arms became suddenly paralytic.

The depth of the rain this month was 2 in. $4\frac{2}{3}$ lin.

Sick in the *Hotel Dieu* 3081.

Sick received 1733.

Burials 1533. males 787. females 746.

Legitimate	} Births	1567,	boys 804,	girls 763.	} total
Illegitimate		297.	boys 147.	girls 150.	

Marriages 549.

December. The weather was pretty temperate as to cold ; nor was it less cold in the after, than it was in the forenoon, the sky was almost constantly covered ; the coldest day was the 12th, the barometer stood that day at 28, and the thermometer fell to 2 deg. below freezing, the wind being west.

The weight of the atmosphere was considerable this month, the barometer stood mostly at

at 28 inch. 1 line; it kept always above 27 inch. 6 lines, except the 22d in the morning, when it fell to 27, the wind that day being at S. W. it rained likewise that day, and the thermometer fell to 6 deg. above freezing; the wind blew from all points at different times, but mostly from the W. and but rarely from the S. it rained but seldom this month, the river *Seine* was very low.

The *dysenteries* of the two preceding months were fewer, but we still had a great many fluxes, which seemed to proceed from a catarrhus humor, producing in some a particular kind of fever, complicated with pain or confusion in the head, and sometimes with a drowsiness; and if in the least neglected, it became putrid; most of the sick had sore-throats at the same time, some from the very beginning, others towards the end of the fever; this same catarrhal humor wou'd first display its parts in the bowels, before it fell on the *fauces*; and when fairly lodged on them, the bowels were at ease; if it left the *fauces*, it surely fell after upon some other part of the body; it began in others with a swelled face; it seized after the throat, and leaving this, it removed to one side or other of the *thorax*, or wou'd first begin in the side, in its way to the *fauces*; this pain in the side did not appear to affect the *pleura* or lungs; nor did the sick cough, nor was their breathing
any

any ways affected; repeated bleedings more or less, according to the violence of the disorder, was both useful, and often necessary; apozemes made of *borrage*, *lettuce*, *wild succory* and *chervil*, rendered purgative by the addition *sal de duobus*, relieved the sick, and at length cured them.

Emetic tartar, given in a proper dose, according to the strength, age and sex of the patient had good success, tho' it purged them all downwards, so great a disposition had the epidemics of this season to run off by the bowels; this was further evident from this, that such of the sick as had a flux, were free of the fore-throat, but what was the most extraordinary, that notwithstanding this flux, the sick still complained of the above painful confusion in their head.

The height of the rain this month was 1 in, 4 lin. $\frac{2}{5}$.

Sick in *Hôtel Dieu*, 3151.

Sick received 1742.

Burials 1776. males 929. females 847.

Legitimate	} Births	1472.	boys 741.	girls 731.	} total
Illegitimate		292.	boys 142.	girls 150.	
Marriages		27.			

The winter of 1749, was moist; there were none of those frosts, which dry the air, and yet the weather was cold; the 9th of *February* was the coldest day this winter, the thermometer fell 6 deg. below the freezing point.

The

The *Spring* was very temperate, nevertheless it was much too dry for the fruits of the earth, especially about *Paris*.

The summer was likewise dry, but not near so temperate as the spring; for it was excessively cold and hot. The 27th of *June*, the thermometer fell to 7 above the freezing point, and the 13th of *July* it rose to 29 $\frac{1}{2}$ above it, the first fruits of this season, such as *cherries*, *pease*, &c. were neither so plenty, nor so good as in other years.

Autumn was rather dry than moist; the winds at the *equinoxes* were no way remarkable; there was little or no fruit this autumn.

1749, In the general was neither wet nor dry; the measles of this year were slow in coming out, and as long in drying, and yet they were no way dangerous; the face remained red a long time.

A number of children complain'd this year of dull pains in their bellies, especially in the winter season, but were freed from it, upon the eruption of some yellowish pimples under the *cuticula*.

Total of the rain that fell in 1749, 19 in. $\frac{1}{2}$.

Sick received into *Hotel Dieu* 21082.

Of burials 18607, males 9864, females 8743.

Legitimate	} Births	18160	} boys 11742 girls 11191	} total
Illegitimate		3773		
Marriages		4263.		

The month most died in was *December*, and the least in was *February*; there were more births in *March* than in any other month; and fewer in *December*, as there were fewer marriages in this than in any other month, and most in *November*.

There were more boys this year than girls, the number of boys was 11742, and that of girls 11191. so there were 20 boys to 19 girls.

Extracts from M. duHamel's *Botanico-meteorological Tables* for 1749.

January 1749 at *Pluviers*. We had no epidemics this month, along the forest they had the small-pox.

March. Some old people and others afflicted with chronic disorders died; but we had no other epidemics, but *rheums*, and these no way dangerous.

April. Our *rheums* still subsisted, and we had some very bad pleurifies.

The small-pox still kept its ground on the back of the *Forest*.

May. The *rheums* still kept with us; we had also some very bad peripneumonies.

June.

June was free from any epidemic disease.

July was likewise free from epidemics.

August brought in some intermittents; we had likewise some malignant fevers.

September. The disorders of the preceding months still subsisted.

It generally happens that what we make most use of, and is most common, we know least of its nature; this is no where more manifest, than in regard to the air, the first thing we made use of, upon coming into the world, and which we constantly take in for the remainder our lives; this air surrounds us intirely, and presses on us on every side, it's spring perpetually both excites and supports all our motions; it besides makes a considerable part of all our humors, and enters the composition even of all our most solid parts; Lord *Veru'am* therefore had just reason to say, *that the vicissitudes of the air were the principal cause of the dissolution of all organized bodies* *.

This being strictly the case, we shou'd carefully observe the variations in the temperature of the air, and its action on our bodies; it being well known what influence it has on the means we employ, as well for the preservation and recovery of health, as on the treatment of the sick, in discovering the cause of their disorders, and method of removing them.

N n 2

We

* *De causis vitæ et mortis.*

We have before observed (page 177 et seq.) the effects from the pressure of the air on our bodies ; we have also observed (p. 258, et seq.) the effects the dryness and moisture of the air had on us ; we shall here consider the influence heat and cold has on our bodies.

Of all the qualities of the air, there are none that so sensibly affect us as its heat and cold ; we judge of those qualities by our senses. Whatever exceeds our own heat we judge it to be hot ; and what we perceive to be the least degree under our own heat, we call that cold. Those however are only relative qualities, nor is the air in itself either hot or cold ; it becomes either hot or cold, according to the proximity or distance of the sun, i. e. as it continues or ceases to agitate its parts.

The air next the surface of the earth is always warmer than the air on the top of high mountains, such as that of *Pitchincha* in *Peru*, which is covered the year round with snow ; for the snow will not melt at 2430 fathoms, i. e. a grand league above the level of the sea.

Mrs. *Bouguer* and *de la Condamine*, in the narrative of their voyage to *Peru*, were extremely sensible of the heat and cold of the air, as they either ascended or descended those high mountains, the *Cordilleras* ; their thermometers were very visibly affected, for they stood at the sea shore, at 28 degrees above the freezing point, upon those

those mountains they fell to more than 5 degrees below it ; the barometer, which on the shore stood at 28 inch. 1 line ; fell likewise to 15 inch. 3 lines, which is more than 12 inch. 3 lines ; they likewise perceived on the said mountains, for some hours in the day, the difference in the temperature of the air, as much as if they had been for that time in different climates.

That the air is always warmer on the plain than on the top of high mountains, is owing to its different density ; for the denser the air is, the greater will be the impression made on it by the rays of the sun, and the longer will it retain the same ; (the more solid any body is, the longer it retains the impressions of heat or motion impressed on it), whereas the air on the summit of high mountains being so very rare, retains the impressions it receives from the rays of the sun, but a very short time, owing to the great liberty this thin air has to expand itself.

Add to this, that the air next the surface of the earth is saturated with particles of various densities, being emanations from the several bodies on it, which like so many little solid *mirrors*, reflect the rays of the sun, whereby the air becomes so much the warmer ; but when the sun retires from us, it then ceases acting on those solid particles of matter, the air begins gradually to grow cold, and as the upper
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air is always more or less cold, this helps to cool the air immediately under it, and so on till this cold is communicated to the air next the surface of the earth, which by that means becomes so much the colder.

When therefore the air from warm becomes suddenly cold, as is too often the case in the months of *June* and *July* in *Paris*, this sudden change in the temperature of the air is very productive of many disorders; for by suddenly checking those copious discharges by the skin, our juices are coagulated in their very excretories; the several secretions from the blood are of course interrupted or perverted, a fertile source of various maladies.

January 1750, was extremely mild, the thermometer was scarce ever below the freezing point, but on the 6th, when it fell to 5 deg. below it, and the 8th it rose to 15 deg. above it.

The air was very heavy all this month, the barometer rose to 28 6, and the lowest it fell to was to 27 inch. 5 lines, and that for a few hours only; all to this, the weather was pretty even.

The wind was pretty steady, being mostly S. E. and but rarely S. W. We had very little frost; the atmosphere was mostly covered, and we had often fogs, which rendered the air moist, tho' there was very little rain.

The

The epidemics of this month, were defluxions and fevers, these defluxions by falling on the lungs, became very dangerous.

Some stubborn *rheums* degenerated into peripneumonies, as often as they were accompanied with a fever; there were some rheumatisms, and bloody fluxes; in some of those fluxes the *faeces* were of their usual consistence, but mixed with some acrid matter, which occasioned the flux; diluting and cooling draughts were what agreed with them best; whereas astringents, such as *diacordium*, *theriaca*, were found to be rather hurtful.

There were likewise some putrid fevers this month, which appeared to seize the head first. The sick were either drowsy, or raved when alone, but wou'd answer pertinently enough to all questions; some complained of pains in their bowels; others of sore throats; and sometimes of the hart-burn; one in particular a girl, voided both upwards and downwards black blood. Such as died of this fever turned black in a short time after death.

What was found chiefly beneficial were early evacuations, especially when the sick observed a proper regimen.

Reiterated bleedings were very useful in the beginning, especially when this fever was complicated with inflammatory symptoms; but when the putrifaction was considerable, no remedy

medy could prevent its effect, or save the patient.

There were some apoplexies, which seemed to partake of the nature of this epidemic putrid fever ; for those apoplexies were accompanied with a fever, a quick and small pulse, and some convulsive motions ; nor were they so much sick as they usually are in this disorder ; their eyes were lively and clear, and when they recovered out of the fit, they spoke rationally enough ; whereas at other times such as did recover, appeared rather stupid ; it was further remarkable, that such palsies as succeeded those apoplexies, were not so stubborn as after other apoplexies ; especially if the sick were less blooded, and purged oftener.

The height of the rain this month was but 8 lines $\frac{1}{8}$.

Sick in <i>Hotel Dieu</i>	3481.	
Sick received	1935.	
Burials 1898, males	1001, females	897.
Legitimate } Births	1738, boys 895, girls 843.	} total 2074.
Illegitimate }	336, boys 182, girls 154.	
Marriages	534.	

February was by much less cold this year than usual, the thermometer was no time below the freezing point ; but it rather stood at that point, the coldest days of this month, which were the 3d and 4th.

The gravity of the air was changeable, it was lighter about the middle than in either the beginning or end of the month ; for the barometer

meter was the 2d and last days of the month at 28 inch. 3 lines, and on the 17th, at 27 inches 4 $\frac{1}{2}$. lines, the wind blowing violently that day from the W. there was also some rain that day.

The wind blew from all points, it blew 4 days successively from the W. as violently as it usually does at the *Equinox*, all to this, the air was extraordinarily dry, and the sky clear; on the 3d was seen an *aurora borealis*, which continued 4 hours, the 9th, there was another to the South, which lasted but an hour, and a 3d, the 27th, after mid-night.

The *rheums* and pleurifies of the preceding months were still to be seen; but what attracted most the Physician's attention was the number of malignant putrid fevers; and indeed all the fevers of this season did more or less partake of the same putrid state, and were accompanied in some with a flux, and in others with copious sweats, in others with a jaundice.

Some complained of pains in their sides, like pleuritic stitches, which wou'd often remain, after the fever was gone.

Both the small-pox and dysentery were epidemic this month, but the small-pox was more benign in this than in the preceding months, while the dysentery was rather more dangerous in this.

The height of the rain this month was but 5 lines $\frac{3}{8}$.

Sick in *Hotel Dieu* 3573.

Sick received 1658.

Burials 1580. males 890. females 690.

Legitimate	} Births	1534. boys 765. girls 769.	} total
Illegitimate		380. boys 182. girls 198.	

Marriages 554.

March was extraordinarily mild, the thermometer was always in the morning at 6, and in the afternoon at 12 deg. above the freezing point; and even the dew was seen to fall as it does in *May*, the air was more than ordinarily dry, there being no rain, but on the 9th and some hail and snow the 10th.

And tho' the sky was always serene, yet the fruits of the earth did not seem to benefit in proportion to the warmth of the air, which was owing to a want of moisture in the air. The gravity in the air was very considerable all this month, the barometer keeping all the time above 28 inches.

The putrid fevers and pleurifies of the former month still kept their ground, which required to be treated in the same manner as malignant fevers are.

Some complained of rheumatisms, others were seized with apoplexies; the small-poxes of this season were succeeded by tetterous and other cutaneous disorders, but the chief epidemics of this month were sore throats, some had a light ptyalism, but in the general, they were

were not dangerous ; they easily gave way to gargles, made of a decoction of *briar-roots*, *honey* of roses acidulated with the oil of *vi-triol* ; others added emetic tartar to those gar-gles ; for common drink, they took barley water with a little of crystal mineral dissolved in it ; and such as did abstain from solid food were soon cured.

The height of the rain this month was but 6 lines $\frac{3}{8}$.

Sick in *Hotel Dieu* 3729.

Sick received 1710.

Burials 1627. males 958. females 669.

Legitimate	} Births	1677, boys 846, girls 831	} total
Illegitimate		345. boys 183. girls 162	

Marriages 34.

April was temperate, seasonable weather, being both moist and mild, tho' it blew pretty hard from the N. W. for some days, especially the 14th and 15th, it also hailed and snowed the 8th, and froze the 2d, 3d, 8th, and 29th.

The highest the thermometer rose to was 16 deg. above the freezing point ; this was the 21st, the barometer stood then at 27 inch. $\frac{1}{2}$. the wind was S. W. there was both thun-der and rain ; in the general, the atmosphere was lighter in this than in the last month, the barometer was mostly under 27 inch. 9. the lowest it fell to was 27, 3. which was the 9th and 10th, it snowed and rained those days, the wind being then W.

The wind in *April* blew from all points, but it was mostly S. W. There were fewer peripneumonies this month than what used to be in the same month in other years, owing probably to the mildness of the *winter* this year; there were however a great many defluxions, which occasioned *rheums*, and some rheumatisms, and chin-coughs, which generally went off by copious sweats; others were seized with palsies and swellings, and others spit blood.

The putrid fevers of this month were attended with stiches and faintings; the sick were now seized in a very extraordinary manner, with a cold fit, and pains in the head, region of the kidneys and belly; all these disorders terminated very speedily by sweat, or by death; and some died suddenly; the barometer was mostly then at the lowest.

Others were judged by a critical discharge on the liver, or by a jaundice; all manifest signs of the great putrefaction of the humors; the blood drawn from the sick, proved the same, for it was very bad.

There was seen at the same time a fleeting small-pox, which lasted but 6 or 7 days; the sick did not here complain of pains in either the head, or back, but there was this particular in this small-pox, that it began with a cough, and the pustules to itch upon their first appearance, which in other years does not happen

pen, until they begin to dry and scale off.

The height of the rain 2 inch. 5 lines.

Sick in *Hôtel Dieu* 3718.

Sick received 1832.

Burials 1848. males 1044. females 804.

Legitimate	} Births	1545.	boys 790.	girls 755	} total
Illegitimate		331.	boys 174.	girls 157	

Marriages 522.

May was temperate enough, and yet it was rather cold than hot ; the highest the thermometer rose to was 16 deg. above the freezing point ; this was on the 14th and 22d, and the lowest it fell to was 6 above it, which was on the 11th, the wind being N. and the barometer at 28 inch. 1 line.

The gravity of the atmosphere was nearly the same in *May* as it was in *April*, the highest it rose to was 28, 1, and the lowest it fell to was 27, 6.

The 24th of *May* at 10 at night, there was felt in the southern parts of *France* a violent shock of an earthquake ; it was imagined to proceed from the *Pyrenean* mountains, it was felt at *Lourdes*, *Tarbes*, *Pau*, *Bordeaux* and *Toulouse* ; we had both storm and thunder the same time in *Paris*, the wind changing from West to East, and the barometer at 28 inch.

Upon the whole, the atmosphere was neither serene nor clear this month, the air being for the most part cloudy, it was besides very moist, and it rained a good deal with every wind,

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Legitimate } Births 1545. boys 790. girls 755 } total

Illegitimate } 331. boys 174. girls 157 } 1876.

Marriages 522.

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wind, and even more when S. E. than when S. W. and if it rained before, it wou'd cease raining upon the winds coming to the S. W. and wou'd begin to rain, when the wind came about to the S. E.

And yet tho' the weather was so changeable, there were not many sick, and there were fewer, while the barometer was high ; but upon the return of the rain, several relapsed, and those were observed to be then worse.

The principal epidemic now reigning was a hepatic colic, which was soon relieved by copious bilious dejections; this colic, was no way inflammatory, nor was the fever or heat any way proportionable to the pain attending it. A light infusion of rhubarb did here very well, as it carried off the cause.

There were besides some small-poxes, peripneumonies, sore throats ; most of the sick were disposed to sweat, and some had *erysipelas's*.

The height of the rain was 2 inch. 7 lines $\frac{2}{8}$.

Sick in *Hotel Dieu* 3622.

Sick received 1657.

Burials 1586. males 937, females 649.

Legitimate } Births 1597. boys 835. girls 762 } total
Illegitimate } 317. boys 180. girls 137 } 1914.

Marriages 420.

June was pretty temperate as to heat, except the last days ; the hottest was the 21st, the thermometer rose that day 23 deg. above the freezing point ; the barometer stood at 27 inch.

inch. 8 lines, the wind being South, and the sky covered; the night following, there was both thunder, lightning and a great deal of rain.

The lowest the thermometer fell to was 9 deg. above the freezing point, which was the 4th and 5th, the barometer was then at 28 in. and the wind S. W.

The air in *June* was more than ordinarily moist, and the sky almost constantly covered, and it rained more this month, as it did in the last, by a N. E. than by a S. W. wind; here also it would cease raining, when the wind became S. W. and would as duly begin to rain, when the wind returned to the N. E. several were seized with a drowsiness, which in some terminated in an apoplexy, in others in sudden death.

The hepatic colic's of the preceding month were still to be seen; but they were neither inflammatory, nor accompanied with a tension of the belly, or fever; because the matter went readily off by stool.

There were some peripneumonies among the lower class of the people; those in easy circumstances are in all seasons less subject to epidemic diseases; but in return they are more subject to such diseases as proceed from *fulness of bread*, from excesses, than the commonalty; and this seems to preserve a just compensation between

tween the the conditions of the poor and the rich.

M. *Senac*, at present 1st Physician to his Majesty, observed some rheumatisms, which seized the head, neck and *thorax*, reaching to the false ribs, accompanied with both a fever and a difficulty of breathing; if the matter that occasioned it fell upon the membranes of the brain, or on those of the *thorax*, the sick died suddenly; he was of Opinion that the *Bezoardicum Foviale*, which *Riverius* recommends in the like cases, might be here likewise useful; others were of opinion that blisters would answer better, the blood drawn from the sick was fizy; there were likewise some miliary fevers this month.

The *sweating sickness* of 1727 raged this month at *Beauvais*, about 14 leagues West of *Paris*; M. *Boyer*, one of the King's Physicians being consulted by the Magistrates of that Town, he sent them a memorial, directing the method how to treat it, which had all the desired success; for which he received their thanks and a handsome present.

The height the rain rose to was 2 inch. 9 lines.

Sick in *Hotel Dieu* 3267.

Sick received 1479.

Burials 1356, males 790, females 566.

Legitimate } Births 1540, boys 743, girls 697. } total
 Illegitimate } 295, boys 153, girls 142. } 1735.

Marriages 406.

July

July was very warm, the thermometer rose to $29 \frac{1}{2}$ deg. and what was more remarkable, it continued for many days at that point, to wit, the 21, 22, 23 and 27th, the wind S. E. the sky serene, the lowest it fell to was 11 deg. above the freezing point, which was the 12th, the wind being W. with rain.

The highest the barometer rose to was 28 inch. $2 \frac{1}{2}$ lines, which was the 19th, the lowest it fell to was 27, 7, and that the 5th.

The sky was often covered, and the air moist; there fell more rain than usual; the wind was mostly South; sometimes West, but rarely N. or E.

There were some peripneumonies, *rheums*, and sore throats; many were afflicted with swellings in their legs and feet, and some with malignant fevers; but the principal epidemic was a colic, which seem'd to be owing to some obstruction in the liver, as the seat of the disorder was at that side; but it differed from an hepatic colic. 1st, The sick had no tincture of yellow on their Skin. 2dly, The *fæces* were not of a whitish color.

It resembled in some of its symptoms the *colica pictonum*, as it was accompanied with cramps and numbnesses of the extremities, but differed so far from it, that purgatives rather aggravated this colic, whereas they always relieve the *colica pictonum*, and particularly the most drastic ones, when seasonably given.

Some died in 3 days of this colic, especially if they were troubled with indigestions at the time ; others complained of heart-burns, and such as vomited, had their eyes sunk, and their face drawn ; and even from the first seizure, they were greatly dispirited, had a quick, low pulse, their belly was hard, and were costive, and complained besides of pains in their hips and kidneys.

This colic is the *cholera morbus sicca* of Hippocrates, *de ratione victus in morbis acutis*.

Bleeding was a principal indication here, to take off the inflammatory tension of the parts, which together with copious dilution with warm, or chicken water, prepared the peccant humors to be carried off after by purgatives ; narcotics were also of service, to take off the tension and pain, that often remained ; the chalybeate purgative waters happily completed the cure.

The height the rain rose to was 1 inch. 11 lin. $\frac{3}{8}$.

Sick in *Hotel Dieu* 3090.

Sick received 1432.

Burials 1236, males 680, females 556.

Legitimate	} Births	1550. boys 813, girls 737	} total
Illegitimate		268. boys 146, girls 122	

Marriages 410.

August was seasonably temperate, as to heat, the thermometer was in the hottest part of the day at 20, and in the coldest at 11 deg. above the

the freezing point, and the 29th it fell to $7\frac{1}{2}$ deg. above it.

The highest the barometer rose to was 28 inch. 2 lin. and that on the 29th, and the lowest it fell to was 27. 6. and that on the 9th.

The wind was often in the beginning of *August*, S. W. and N. E. at the end ; there were some light storms this month.

After the *cholera morbus* of the preceding month had left us, we had some very bad indigestions, owing to the bad state the bowels were left in after that disorder ; some also had fluxes, accompanied with the heart-burn.

There were more complaints from the bladder this month than usual, and yet one could not say those complaints were epidemic.

There were some malignant fevers, pleurifies and dysenteries in the *Hotel Dieu*.

Some had defluxions on one side of the head, while the rest of the body was covered with pimples ; there were some benign small-poxes and some intermittent fevers, and some malignant erysipelatous ones ; a girl in particular of 18, was seized with erratic pains and fever ; the 3d day she fell into a continual drowsiness, which manifested the head was greatly affected : She was blooded twice in the foot the same day, upon which an *erysipelas* appeared on her leg, and her head was relieved ; but as the fever and pain still sub-

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The wind was often in the beginning of *August*, S. W. and N. E. at the end; there were some light storms this month.

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sisted, her Physician ordered a 3d bleeding in the foot ; as it was a little difficult to bleed her in the foot, the Surgeon bled her in the arm ; hereupon the *erysipelas* disappeared, and the head became as much affected as in the beginning ; but upon bleeding her in the foot after, the *erysipelas* returned to the leg, and her head was likewise relieved : When at the end of 9 days the *erysipelas* was cured, the patient was seized with an aguish fit, accompanied with pains in her head, and hips ; she was here again bled in the foot ; there appeared after a tumor on her thigh, and the former *erysipelas* returned to the leg ; it was at last finally terminated by pains in her bowels, which were soon removed by a flux, that now broke down of itself.

There were some erysipelatous fore-throats, with difficulty of swallowing, tho' the amygdal glands were no way swelled.

Some of the sick of those fore-throats at St. Germain en-Ley near Paris had their lips as red as a rose, their hands likewise had red spots ; many of them did not know they had a fore-throat, tho' the white gangrene was now visible ; such as recovered seemed inclined to a consumption.

The height of the rain was 3 inch 5 lin. $\frac{3}{8}$.

Sick

Sick in *Hôtel Dieu* 2887.

Sick received 1503.

Burials 1203, males 643, females 560.

Legitimate } Births 1615, boys 803, girls 812 } total

Illegitimate } 301, boys 141, girls 160 } 1916.

Marriages 323.

September was extremely fine, the thermometer was generally in the afternoon above 20 deg. and scarce ever in the morning lower than 10 deg. above the freezing point; the barometer likewise kept mostly at 28 inch. and often above that; the lowest it fell to was 27, 7, and that on the 2d, the wind being West, and the air very moist; the wind blew from all quarters this month, but it was no time high, not even at the *Equinox*.

There was some thunder, lightning and rain the 20th; all to this, the air was very dry.

We had some bilious fevers this month, which in some became tertian, in others quotidian; others had an inflammation in their bowels, which soon terminated in a mortification and death; such as had accustomed themselves to take phisic in this season, experienced some sharp colic-like pains after their phisic, accompanied with thirst; and such as had nothing else to drink in the night, but cold water, found ease upon drinking it.

It was likewise observed that the dysentery, which was now our chief epidemic, was soon-

er

er relieved by coolers, and emulsions, than by heating medicines, such as *diascordium*, *theriaca*.

Some Physicians of the *Hôtel Dieu* gave 15 or 18 grains of *hippo* in a mess of broth in those dysenteries, and repeated the same for two or three days running, to very good purpose.

The rain this month rose but to 9 lines.

Sick in *Hôtel Dieu*, 2898.

Sick received 1702.

Burials 1287. males 681. females 606.

Legitimate	} Births	1595. boys 803. girls 792.	} total
Illegitimate		309. boys 151. girls 158.	
Marriages		416.	

October was more than ordinarily dry, for there was but little rain; but in recompense the dews were very considerable.

The reigning wind in *October* was that of the North, it was often N. E. and N. W. seldom S. E. and no time S. W. the weather was very mild, especially in the beginning of the month; the thermometer was in the afternoon at 17, and in the morning at 2 deg. above the freezing point; the atmosphere was very heavy all the beginning of the month, to the 17th, and during this time the air was both dry and warm; the barometer from the 3d to the 17th, was at 28 inch. 4 lines.

But as the weather at this time began to set in cold, it fell to 27, 4 lines the 20th, which makes the difference of one inch in the weight of
of

of the atmosphere; the wind was now north, and the sky was covered this day.

We had a good many sudden deaths, upon the air's becoming suddenly light; the cold weather brought with it *rheums*, some *peripneumonies*, and fore-throats, accompanied in some with a *catarrh*.

On account of the settled dry weather we had this month, there were fewer sick than in the last; however, we had some fluxes which when imprudently stopped before the cause was removed, degenerated into fevers with exacerbations, and sometimes they turned into dysenteries; several children were now seized with dysenteries; an emulsion made with a decoction of the water-lilly-root and the cold-seeds, was found very serviceable in those bilious fluxes; there were some of the former *colica pictonum* seen this month; it was remarkable that since *July* last, the humors that occasioned those epidemics, had a great tendency to run off by the bowels, which in some gave rise to the *cholera morbus*, in others to gangrenous inflammations of the bowels, to dysenteries and fluxes.

In one quarter of the City, many were seized with a colic, which took them with a pain, first in their limbs, which removed after to their chest and settled at last in their bowels; here the beatings of the celiac artery were ve-

ry

ry sensible; what chiefly relieved the sick were pukes and the warm bath.

Upon opening such as died of this disorder, the *duodenum* and *jejunum* were found chiefly affected; but most of the intestines were found mortified.

Some were ill of fevers, accompanied with a pain in the head, and *thorax*, which gave way to bleeding and purging; it was observed that bleeding in the *saphena* answered better than in the arm.

There were also some malignant fevers, and gangrenous fore-throats, a girl in particular threw up 2 $\frac{1}{2}$ inches of the inner membrane of the *trachæa*, she died soon after.

The height the rain rose to was 7 lin. $\frac{2}{3}$.

Sick in *Hotel Dieu* 2610.

Sick received 1913.

Burials 1376. males 742. females 634.

Legitimate	} Births	1583. boys 727. girls 746.	} total
Illegitimate		303. boys 148. girls 155.	
Marriages		404.	

November with respect to heat and cold, was as it usually is in *Paris* in this month; the air was more than ordinary moist, it rained often, and a good deal; the wind was very changeable, but it was mostly West or South West.

The thermometer kept constantly above the freezing point; the barometer was very changeable, the air in the general was lighter than in the last, it commonly stood at 27 inch.

6 lines, and on the 8th, it fell to 26, 9. but on the 19th it rose to 28, 3.

It was remarkable that most people complained of great agitation in themselves in the night of 8—9, upon the barometer's suddenly falling from 27, 6 to 26, 9 by a violent E. S. E. wind, and as suddenly rising the 9th to 27, 7 by a North West wind.

There were few sick this month, some odd ones had fluxes, dysenteries, and some de-fluxions.

The palsies that succeeded the apoplexies in this month, were in no wise proportionable to their cause, the apoplexy was slight, but the palsies were compleat, which was contrary to palsies, that succeeded apoplexies in other years; and yet, which is still very singular, those palsies were easier cured, than those of other seasons.

The height the rain rose to was 3 in. 7 lin. $\frac{1}{8}$.

Sick in *Hotel Dieu* 3030.

Sick received 1880.

Burials 1486. males 802. females 684.

Legitimate	} Births	1566, boys 817, girls 749.	} total
Illegitimate		319. boys 165. girls 154.	

Marriages 557.

December was seasonable weather, as to the cold; there was frost in both the beginning and end of it, and now the thermometer fell to 5 deg. below freezing, tho' for the most part it kept above it, and that sometimes to 7 degrees in the afternoon.

The barometer was both very changeable and high; the two last days of the month it rose to 28 inch. 5 lines, tho' there was then a thaw, and the wind had changed to the N. the lowest it fell to was 27, 3, and that on the 11th, the wind being S. and S. W.

The wind was very changeable this month, but it blew mostly from the S. and S. W. those winds were very high; when the weather was coldest, the wind was then South.

There were few fogs this month, and very little rain; the frost held but a short time, and the thaw was extremely mild and without rain, which probably was the reason why we had so few sick. The *measles* was rife among the children, and some elderly persons had the small-pox.

Some fluxes and even dysenteries, and some malignant fevers were here and there to be seen, as also some *rheums* and defluxions on the parotid glands.

The height the rain rose to was 1 in. 7 lin. $\frac{3}{4}$.

Sick in *Hotel Dieu* 3396.

Sick received 1889.

Burials 1370. males 682. females 688.

Legitimate	} Births	1595. boys 774. girls 821.	} total
Illegitimate		281. boys 138. girls 143.	
Marriages		39.	

The winter of 1750, was very moist in the beginning, and as dry towards its end; the rivers were remarkably low this winter; for there fell very little rain, and the moistness of the

the air in the beginning of this winter was owing to the great fogs we had; the winds were very high about the middle of the winter quarter as they generally are about the *Equinoxes*; when those hurricanes were over, the air was as mild as it usually is in spring.

It was less cold this winter in *Paris* than usual, while at the same time it was much colder than usual in the Southern provinces of *France*, which seems to denote that the heat of a climate does not depend intirely upon its proximity to the Sun, or its situation, with respect to that luminary, but that several other causes contribute to produce that effect.

The mildness of the weather this winter was probably the reason, why most of the reigning disorders of this season pushed more for the skin than what is usual.

The spring was very fine in the beginning, and in the whole very temperate, in respect to heat and cold; the disorders of this season had a very great tendency to go off by the skin.

The summer quarter was very moist in the beginning, but towards the end, it was both dry and fine; there were many cutaneous disorders; there were fewer storms this season in *France* than in other years at this season, while there were very violent storms in *England*.

Autumn was very temperate as to heat and cold; but the weight of the atmosphere varied considerably, as did the winds;

which were very violent about the time of the *Equinox*.

There were fewer sick this season than in any other; the air in the beginning was dry, but towards the end it became very moist.

There was plenty of fruit this season, and tho' it was found and thorough ripe, yet it contributed more than any thing else to produce indigestions, especially in such whose bowels were so disposed. Both dysenteries and fluxes were seen more or less this whole year; all the disorders had a tendency to go off either by the bowels or skin, there were small-poxes, thro' the whole year.

Oysters were not found to disagree this year, as they usually did in other years in the beginning of autumn.

Total of the rain that fell in 1750, 20 inch. 10 lin. $\frac{2}{6}$.

Of the sick received into *Hotel Dieu* 20590.

Of burials 18084. males 9961. females 8123.

Legitimate	} Births	19053. boys 9711. girls 9324	} total
Illegitimate		3785. boys 1943. girls 1842	
Marriages		4619.	There were most in Nov. and least in March.

Extracts from Dr. *Arnaud* of *Orleans*'s Registers for 1750.

January. The year began with heavy and continual rains; in the intervals between the rain, the sky remained cloudy; there was no frost;

frost ; this temperature of the air was the natural cause of all such disorders as proceed from a relaxation of the solids, such as ferous apoplexies, lethargies, palsies, rheumatisms, asthmas, peripneumonies ; there were some afflicted with indigestions, weight at stomach, want of appetite, and some very bad fevers.

The *kermes minerale* and gentle purgatives were serviceable in the defluxions on the lungs ; whereas copious bleeding were attended with very bad consequence, owing to the great relaxation of the whole vascular system ; purges on the contrary did better.

February. Some cutaneous disorders only, and *rheums* and bastard pleurifies were now seen ; there were some sudden deaths, and some intermittent fevers, which were no ways dangerous.

March. There were a great many humoral defluxions, some erysipelatous phlegmons, continual and intermittent fevers ; a great many complained of giddinesses.

April. There were very few sick this month. The only disorders we had were *rheums*, extinctions of voice, fluxes, and some continual fevers, some of which appeared to be malignant.

May. The disorders of *April* still kept their ground ; the small-pox was in the *Environs*.

June

BIO MEDICAL ESSAYS, &c.

June. We had but some sore-throats, *rheums* and bastard pleurifies, occasioned by the cold weather. The small-pox still continued about us.

July. We had only some genuine intermittents and some malignant fevers.

August. We had very few disorders, except intermittents ; about the end of the month, there were some apoplexies, and lethargic fevers, of which many old folks died ; the cold that set in about the middle of the month, brought with it *rheums*, quinsies, colics and fluxes.

September. We had now a great many sick of putrid and malignant fevers, together with regular tertian and double-tertian fevers. We had likewise fluxes and dysenteries ; several of the lower class, ill of those putrid fevers, voided quantities of worms, especially at *Blois* and *Chambord*. Marechal Saxe's *Ullans* used to come by carts-full to the *Hotel-Dieu* of that town, ill of this fever.

October. The disorders of the preceding month still subsisted, and became rather more common ; the cold brought with it both coughs, quinsies, peripneumonies, pleurifies ; the dysentery was very rife in the *Environs*, but easily gave way to the usual treatment.

November. The disorders of the preceding month still kept their ground ; there were in the *Environs* a great many ill of pleurifies, which

which carried off a great many of the sick, in spite of every means employed to relieve them.

The gangrenous quinsy of the former years appeared this month; three children in the same house died of it in 6 days time, and what is more extraordinary, the mother who took care of them, had like to die in a few days after them, by only lying with them.

December. All the disorders of this month were such as depend on a suppression of the cutaneous discharges, such as defluxions, rheumatisms, erysipelas's, Palsies, and rheums, many of which degenerated into bastard pleurifies; some had their parotid glands swelled; others had fluxes, and some were ill of malignant fevers, yet very few died, except old folks and consumptive persons.

An Abridgment of the Meteorological-Tables of the Royal Academy, from their first commencement in 1688, to the End of the Year, 1750.

Note. It was here thought useful to subjoin an extract from those tables for a further illustration of the epidemical state of the air in *Paris* and its *Environs*.

All naturalists have long since agreed in the usefulness of measuring exactly the quantity of rain, which falls every year in each country, and how much is evaporated; for on this depends the Theory of fountains, rivers, vapors, nourishment of plants, dearths, droughts, &c.

There have been in all countries men, who have applied themselves to such Observations, but the Royal Academy, hath in a more especial manner, made experiments in this way,
from

from a thorough knowledge of the usefulness of such an inquiry, which have been continued ever since.

The thermometer of M. *de la Hire* the father, who first began those *meteorological* observations, is exposed to the air in the eastern tower of the observatory in *Paris*, but so sheltered, that neither wind nor sun can effect it; the observations are made about sun-rising, the air being then the coldest, and between 2 and 3 in the afternoon, which is the time the air is hottest.

We are always to remember that M. *de la Hire's* thermometer marks the beginning of freezing at 32 divisions or degrees; so when the thermometer is said to have fallen, for instance, to $25\frac{1}{2}$ degrees, we are to understand that it has fallen $6\frac{1}{2}$ degrees below freezing, and when it is said to rise to $63\frac{1}{2}$ degrees, we are to understand the thermometer hath risen $31\frac{1}{2}$ degrees above freezing. Again, when we say the thermometer was at the lowest such a day, we mean to say, that day was the coldest day of that month or year again, when we say the thermometer was at the highest such a day, that denotes that day to be the hottest day of that month or year.

As to the barometer, this also is exposed in the great hall of the observatory, about 156 feet above the level of the river *Seine* in *Paris*; the highest it rose to, as also the lowest it fell to every year is set down, as also the difference between its highest and lowest state in every year, which at a *medium* is computed to be one inch six lines in *Paris*.

Both the thermometer and barometer are observed to be sensibly affected by the diversity of the winds that reign in each season of the year; thus a south wind is commonly found to be warm, owing no doubt to the sun's raising so many sulphurous and other volatile particles into the air in those regions, which being waisted thither, agitate and warm our atmosphere, whereas a N. or N. E. wind, blowing over a vast continent, and very high mountains, which are covered for the most part of the year with snow, detach and bring with them many saline particles, capable of cooling the air, while the S. and S. W. winds are observed usually to bring rain with them. The sun in those regions raises more exalations from the S. and W. seas to load those winds, than those that blow from the east, which waisted to us, are soon dissolved into rain.

It has been often observed, that upon the winds turning from N. to S. the air feels as cold as when the wind was north, the reason is, this air (at least for some time after) is no more than a reflux of the northern air, which as it had not time to become

become warm in any country, feels still as cold as when it came from the north. This was the case in the severe winter of 1709, when the excessive cold began with a black south wind, which upon the wind turning to N. soon abated.

1689, The quantity of rain that fell this year was 18 inches $11\frac{1}{2}$ lines.

1690, Rain, 23 in $3\frac{3}{4}$ lin.

Barometer, the highest it rose to was 28 in. 28th Nov.

The lowest was 26, 10, the wind very high.

1691, Rain, 14 in. 5 lin. which is a good deal less than what falls at a *medium* *.

1692, Rain, 12 in $7\frac{1}{2}$ lin.

1693——— 22 in. 8 lin.

1694——— 11 in $9\frac{1}{2}$ lin. tho' there fell so little rain, yet the springs kept pretty high, which induced some to think they did not derive their origin intirely from rain water.

1695, Rain, 19 in. $11\frac{3}{4}$ lin. there fell more rain in the 3 first months than in *June*, *July*, and *August*, contrary to what is usual.

1696, Rain, 16 in. $5\frac{1}{2}$ lin. *July* was very dry, there fell but 8 lin. $\frac{1}{4}$.

low. at $23\frac{1}{2}$ deg. the 28 Decemb.

Ther.

hig. at 61 deg. the 30th Aug.

1697, Rain, 20 in. 3 lin.

The hottest day in the whole year was the 14th of *May*.

1698. Rain, 21 in. 9 lin.

1699. ——— 18 in. 8 lin. $\frac{1}{4}$. tho' the quantity of rain was little less than what falls at a *medium*, yet this was a dry year, because the rains were not continued, the greatest falling on one day, the intervals very considerable.

low. $25\frac{1}{2}$ deg. the 11th Decemb.

Ther.

hig. $63\frac{1}{2}$ deg. the 25th *July*.

N. B. the *French* foot exceeds the *English* by $7\frac{1}{2}$ lines.

* The quantity of rain that falls *communibus annis* in *Paris*, was computed to be 19 inches by comparing the first ten years; about 20 years after these observations were first made, that is in 1709, the *medium* was then reduced to 18 in. 8 lin. and so it remained till the year 1726, when M. *Maraldi* reduced it to $17\frac{1}{2}$ inches, and lastly in the year 1743 the *medium* deduced from the sum total, in the space of 55 years was no more than 16 in. 8 lin.

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hig. 28 in. 3 lin. the 21st Nov. and 31 Decemb. }
 Bar. } 1 in. 6 lin.
 low. 29, 9 the 14th Jan.
 1700. Rain, 20 in. and but 1 lin. $\frac{1}{2}$ in Septem.
 low. 25 $\frac{1}{2}$ deg. the 19th Decemb.

Ther.
 hig. 61 $\frac{1}{4}$ the 31st July.
 hig. 28 in. 4 $\frac{1}{4}$ lin. 1st Jan. wind gentle at E. N. E. }
 Bar. } 1. 8.
 low. 26, 8 $\frac{1}{2}$ 26 Nov. wind high at s. and snow.
 1701. Rain, 21 in. 4 $\frac{1}{4}$ lin. and but 1 lin. in Ap.
 low. 28 $\frac{1}{2}$ deg. so it scarcely froze.

Ther.
 hig. 65 $\frac{1}{2}$ deg. the 1st Septemb.
 hig. 28 in. 2 $\frac{1}{2}$ lin. the 9th Febr. }
 Bar. } 1, 4 $\frac{1}{2}$.
 low. 26, 10, 6th March.

1702. Rain, 16 in. $\frac{1}{2}$ the spring and summer were very dry,
 and yet the harvest was very plentiful, except the spring crop,
 owing to the moisture of the grounds about Paris.
 low. 14 $\frac{1}{2}$ deg. 1st Jan. this marks very great cold.

Ther.
 hig. 62 deg. 6th Aug. and at 61 $\frac{1}{2}$ the 2d Sept.
 hig. 28 in. 2 $\frac{1}{2}$ lin. 11th Febr. wind at s. }
 Bar. } 1, 9 $\frac{1}{2}$.
 low. 26, 5, 20th Decemb. wind moderate at s.

1703. Rain, 17 in. 4 $\frac{1}{4}$ lin. the great fogs supplied the want
 of rain.
 low. 26 deg. the cold was therefore moderate.

Ther.
 hig. 64, 12th Aug. the heat also was moderate.
 hig. 28 in. 4 $\frac{1}{8}$ lin. 10th Decemb. }
 Bar. } 1, 9 $\frac{1}{2}$.
 low. 26, 6 $\frac{1}{2}$, 3d Jan. little rain, but no tempest.

1704. Rain, 19 in. 10 lin. it was pretty equally distributed.
 low. 14 $\frac{2}{3}$ deg. 23d Jan. but soon rose to 30 deg.

Ther.
 hig. 66 $\frac{1}{4}$ deg. 28th July.
 hig. 28 in. 3 $\frac{1}{8}$ lin. 25th Decemb. }
 Bar. } 1, 4 $\frac{1}{8}$.
 low. 26, 11 the 25th Nov.

1705. Rain, 13 in. 10 $\frac{3}{4}$ lin. and yet the harvest was very
 plentiful, owing to the great rains that fell. Apr. alone furnished
 23 lin. $\frac{3}{8}$. there was no snow this year.

low.

from the ROYAL ACADEMY. 315

low. 25 deg. the 2d Febr. it froze pretty hard the 13th Nov.
Ther.

hig. $65\frac{1}{2}$ deg. at sun-rise, and at 75 in the aftern. in July and Aug. all the thermometers filled with spirits of wine broke this summer *.

hig. 28 in. $3\frac{1}{3}$ lin. the 28th Febr. wind N. N. E. }
Bar. } 1, 7 $\frac{1}{2}$.

low. 26, 7 $\frac{5}{8}$ the 20th Decemb. wind W. S. W.

1706. Rain, 15 in. $3\frac{5}{8}$ lin.

low. 20 $\frac{1}{2}$ deg. the 21st Jan. but soon rose to 30 deg.

Ther.

hig. 68 at sun-rise, in the aftern. at 82 the 8th Aug.

hig. 28 in. $1\frac{1}{2}$ lin. the 10th March

Bar. } 1, 4 $\frac{1}{2}$

low. 26, 9 the 22d Decemb. wind high at S.

1707. Rain, 17 in. 11. lin. there scarce fell any in Apr. and but little in May, and yet the year was very fertile in corn, owing to the grounds about Paris being cool and moist.

low. 27 $\frac{1}{3}$ deg. 1st Febr. the weather temperate.

Ther.

hig. 69 $\frac{1}{3}$ deg. at sun-rise, in the aftern. at 82 deg. the 21st August.

hig. 28 in. $3\frac{1}{3}$ lin. the 21st Nov. wind at W.

Bar. } 1, 2 $\frac{1}{3}$.

low. 27, 1 the 14th Decemb. wind at S. W.

1708. Rain, 18 in. $\frac{1}{4}$ lin. near St. Malo, 24, 6, at Lyons 36, 9, owing probably to the high mountains about Lyons.

low. 25 deg. 12th Decemb. the greatest frost was that day.

Ther.

hig. 66 $\frac{1}{2}$ deg. at sun-rise, in the aftern. at 76, 16th. Aug.

hig. 28 in. $\frac{5}{8}$ lin. 17th Nov. wind N. E.

Bar. } 1, 4 $\frac{1}{2}$.

low. 26, 9 $\frac{1}{2}$ the 10th Jan. wind S. E.

1709. Rain, 21 in. 9 $\frac{1}{8}$ lin. as much in April, May and June, as in the other nine, for which reason the spring crop was very plentiful, the great snow contributed to this great fertility.

* The 30th July, the air at Montpelier was as hot as what issues from the furnace of a glass-house. the like was never felt there before; M. Amontons Thermometer rose to very near where tallow melts. Most of the vines in the Environs were burnt this day, and yet the 6th of August was hotter in Paris. M. de la Hire's Thermometer which he had 36 years, broke this day.

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low. 5 deg. 13. 14th *Jan.* which marks excessive cold.

Ther.

hig. 63, 11th *Aug.* at sun-rise, in the aftern. at 75 deg.

hig. 28 in $3\frac{1}{2}$ lin. 19 *Jan.* sky calm and serene.

Bar.

low. 26, $7\frac{1}{2}$, 16th *Decemb.* wind s. and small rain.

} 1, 8.

1710. Rain, 15 in. $8\frac{3}{4}$ lin. the harvest was however plentiful, owing to the lands being cool and moist.

low. $14\frac{1}{2}$ deg. 11th *Jan.* but rose to 27, where it remained.

Ther.

hig. 61 deg. 3d of *Aug.* at sun-rise, in the aftern. $71\frac{1}{2}$ deg.

hig. 28 in. $3\frac{1}{6}$ lin. 3d *Jan.* wind s.

Bar.

low. 26, $10\frac{3}{8}$ 7th *March*, wind s. and rain.

} 1, 6.

1711. Rain, 25 in. 2 lin. this is far beyond what falls at a medium, being 19 in. on the 28th, 29th, 30th of *July*, there fell 31 lin. which occasioned the *Seine* to overflow considerably.

low. 20 deg. 15th of *Febr.* in 2 days it rose to 36 deg.

Ther.

hig. $62\frac{1}{2}$ deg. 16th *June* at sun-rise, in the aftern. at $73\frac{1}{2}$ d.

hig. 28 in 5 lin. 21st *Jan.*

Bar.

low. 26, $9\frac{1}{3}$ 10 *Dec.* wind s. violent hurricane, rain.

} 1, $7\frac{2}{3}$.

1712. Rain, 21 in. $2\frac{1}{4}$ lin.

low. $24\frac{3}{4}$ deg. last day of the year.

Ther.

hig. 64 deg. 16th *August.* at sun-rise, in the aftern. at 76 deg.

hig. 28 in. $4\frac{2}{3}$ lin. 10th *Feb.* sky serene, wind gentle

Bar. at N.

low. 26 $10\frac{2}{3}$, 6th *Nov.* sky serene, wind moderate at E.

} 1, 6.

1713. Rain, 20 in. $7\frac{1}{2}$ lin. *July* alone gave near $\frac{1}{4}$ of the whole.

low. $18\frac{1}{2}$ deg. 15th *Febr.* there was no snow this year.

Ther.

hig. 58 deg. the last of *Aug.* the winds being N. and E. the summer was cool.

hig. 28 in. $4\frac{1}{2}$ lin. 26th *Nov.* wind slack at N.

Bar.

low. 26, $10\frac{1}{3}$ 29th *Octob.* wind s. with little rain.

} 1, 6.

1714. Rain, 14 in. $9\frac{1}{8}$ lin. there fell in *Jun.* *Jul.* and *Aug.* but 6 in. which in other years furnish as much as the other nine; however the great fogs rendered the harvest very plentiful, the fruits ripened well.

hig.

low. $20 \frac{1}{2}$ deg. 20th *Febr.* wind variable, mostly N.

Ther.

hig. 64 deg. 10 *Jul.* at sun-rise, in the aftern. at 74 deg.

hig. 28 in. 5 lin. 7th *Decemb.* weather calm and fog. } 1, $3 \frac{1}{2}$.

Bar.

low. 27, $1 \frac{1}{2}$ the 10th, *May.*

1715. Rain, 17 in. $6 \frac{1}{2}$ lin.

low. 18 deg. the 18th *Jan.*

Ther.

hig. 64 deg. 2d *Jul.* high storm, in the aftern. at 76 deg.

hig. 28 in. $3 \frac{1}{2}$ lin. 22d *Jan.* wind at S. E. } 1, 6.

Bar.

low. 26, $2 \frac{1}{2}$ the 6th *Decemb.* wind at s. s. w.

1716. Rain, 14 in. $4 \frac{1}{2}$ lin. as the spring and summer were very dry, the hay and spring corn yielded little, but the wheat harvest was very good. The snow that fell on the 31st of *Jan.* furnished 16 lin.

low. $4 \frac{2}{3}$ deg. which marks excessive cold.

Ther.

hig. 63 deg. at sun-rise 23d *Aug.* wind moderate at s. w.

hig. 28 in. 3 lin. 16th *Febr.* wind N. E. } 1, $5 \frac{1}{2}$

Bar.

low. 26, $9 \frac{1}{2}$ 1st *Jan.* wind moderate at s.

1717. Rain, 17 in. $8 \frac{1}{2}$ lin. there were great fogs, which supplied the want of rain. The hail-stones that fell the 4th of *July* were 7 lin. in diameter.

low. 24 deg. the 13th *Febr.*

Ther.

hig. 65 1st *Aug.* at sun-rise, in the aftern. 78 deg.

hig. 28 in. $2 \frac{1}{8}$ lin. 10th *Febr.* 29th *Decemb.* weather } 1, $5 \frac{5}{8}$

Bar.

low. 26, $10 \frac{1}{3}$ 22d *Febr.* 12th *March* moderate rain,

1718. Rain, 13 in. $1 \frac{3}{4}$ lin. tho' this was a dry year, yet it was very plentiful, because the small rains fell precisely at the time the earth wanted them.

low. $21 \frac{1}{2}$ deg. 10 *Febr.*

Ther.

hig. 70 deg. 22d *Aug.* at sun-rise, in the aftern. at 82 deg.

hig. 28 in. $4 \frac{1}{2}$ lin. 15th *Febr.* wind at N. E. } 1, $4 \frac{1}{2}$

Bar.

low. 27, the 11th *Jan.* wind at s.

1719. Rain, 9 in. $4 \frac{1}{2}$ lin. this is not half the rain that falls
com-

communibus annis at a *medium*, as there fell in *Mar. Apr.* and *May*, but 1 in. the spring crop was extremely small.

low. 27 $\frac{1}{3}$ deg. 2d *Jan.* wind N. W. and little rain.

Ther.

hig. 69 deg. 16th *July*, at sun-rise, in the aftern. 82 $\frac{1}{2}$ wind
S. S. E. *

hig. 28 in. 4 lin. 24th *Jan.* sky serene, air calm.

Bar.

low. 26th *Jan.* wind violent at S. and rain

1720. Rain, 17 in. and near 2 lin. 2 in. less than what falls at
a *medium*.

low. 30 deg. 5, 10th *Jan.* 21, 22d *Febr.* with great storms.

Ther.

hig. 77 deg. 20th *July* in the after. weather fine, wind S. S. E.

hig. 28 in. 2 lin. 8, 15th *Febr.* 10 *Jul.* 2d *Sept.* 21. *Oct.*

Bar. sky covered.

low. 27, 1 13 *Feb.* 27 *Mar.* 19 *Apr.* 20 *Oct.* 20 *Dec.* wind

S. S. W.

1721. Rain, 12 in. 7 $\frac{1}{3}$ lin. this has been the driest year these
36 years, except 1719, when 9 in. 4 lin. fell, and 1695, when 11
in. 9 lin. fell, and yet there was a plentiful crop of all sorts
of grain, because what rain fell was in due season; be-
sides, as the sky was very often overcast, this prevented the
sun's drying and burning up the earth.

low. 19 deg. the 22d *Febr.* the ground covered with snow.

Ther.

hig. 72 deg. 7, 8 *Aug.* 7, 28 *Sept.* wind S. and S. E.

* Some have imagined that the greater, or less heat which
is felt in the same season in different years, may arise from the
spots, observed the same time in the sun; for as he does
not then emit to the earth, so great a number of rays, the heat
must of consequence be less than when there are no spots.
However the years 1718 and 19, were very remarkable for their
heat, and yet the sun was rarely without spots, sometimes 9
or 10, and those very large; wherefore it is obvious the tem-
perature of the same seasons in different years, does not depend
on those spots of the sun, but more probably are owing to the
different exhalations from the earth, and diversity of winds,
which rule in the same season, and which are not observed to
have any regular periods in our climates. These observations are
now continued by M. Maraldi.

hig.

hig. 28 in. 6 lin. 18, 20 *Jan.* sky cloudy, air still. }
 Bar. } 1, 4.
 low. 27, 2, 3d *Nov.* weather rainy, wind S.

1722. Rain, 14 in. $6\frac{1}{2}$ lin. what rain there was, not falling in the proper season, the harvest was not so plentiful as the last year, wherein there fell less rain.

low. 25 deg. 24th *Jan.*

Ther.

hig. 72 deg. in the aftern. 15, 16, 27th of *June*, wind s. or s.e.

hig. 28 in. $7\frac{1}{4}$ lin. from 2d to 5. *Jan.* great fog, air }
 Bar. calm. } 1, $5\frac{1}{2}$.

low. 27 in. $1\frac{1}{2}$, 31 *Decemb.* wind violent at s. w.

Note, This was the highest the mercury was ever known to rise to in *Paris*.

1723. Rain, 7 in. 8 lin. which marks extreme drought. The rain that falls in *Mar. Ap.* and *May*, is what fertilizes the earth; as what fell in those months this year, was no more than 1 in. 1 lin. the spring crops were but middling, and the forrage was more so.

low. 17 deg. the 10th *Febr.*

Ther.

hig. 75 deg. 20th *Aug.* 5th *Septemb.* in the aftern. wind s. e.

hig. 28 in. 4 lin. air serene, cloudy, and foggy, }
 Bar. } 1, 1.

low. 27, 3, 22d *Dec.* weather rainy, wind high at s. w.

1724. Rain, 12 in. 4. lin. tho' the quantity of rain that fell in *Mar. Apr.* and *May*, in 1724, was greater, being 2 in. 8 lin. $\frac{1}{4}$, yet the harvest was very moderate, owing to the hot weather's beginning so early (*June*) and lasting long, the wind being mostly s. e.

low. 28 deg. 26th *Nov.* wind N. E.

Ther.

hig. 80 deg. 3d *July*, and 1st *Septemb.* 82 in the aftern. wind, s. e.

hig. 28 in. 4 lin. first 7 days of *Jan.* sky cloudy, air calm.

Bar. The difference between the highest and lowest, $1, 7\frac{1}{2}$.

low. 26, $4\frac{1}{2}$ 19th *Decemb.* the wind furious at s. with rain.

Note, This was the lowest the mercury was ever known to fall to in *Paris*.

1725. Rain, 17 in. $6\frac{1}{3}$ lin. from *May* to the end of the year, the rain was frequent, tho' small; the harvest was therefore

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fore late, the corn suffered after it was cut, the grapes did not ripen.

low. 26 deg. 23, 26th *Febr.* with a great fog, air calm.

Ther.

hig. 60 deg. 5, 10, 11, 12, 13 *Jul.* in the aftern. at 76 deg.

hig. 28 in. 4 lin. 3d, 4th *Mar.* weather serene and

Bar. calm.

low. 26, 10, 19th *Decemb.* violent storm, rain, thunder.

1726. Rain, 11 in. 4 $\frac{2}{3}$ lin. the rain was unequally distributed. The rain that falls in spring fertilizes the earth; there fell in *Apr.* but 7 lin. and only 2 lin. in *May*, but there fell 2 in. in *June*, which repaired in part, the scarcity of the rain in *Apr.* and *May*.

low. 20 deg. the 19th, 21 *Jan.* which marks moderate cold.*

Ther.

hig. 77 deg. it was high all *June*, *Jul.* and *Aug.*

hig. 28 in. 8 lin. 27 *Dec.* weather cloudy, wind at N.

Bar.

low. 27, 2. 21 *Dec.* weather cloudy, wind s. w.

1727. Rain, 13 in. 8 lin. tho' a dry year, the harvest abounded in grain. The rains fell in due season.

low. 28 deg. 7th *Febr.* which marks very moderate cold. †

Ther.

hig. 56 deg. 10 *May*, at sun rise in the aftern. 70, in *Aug.* 80.

hig. 28 in. 4 lin. 1st *Decemb.*

Bar.

low. 27, 1 the 8th *Decemb.* wind gentle

* The cold was excessive at *Montpelier* and *Mersailles*, tho' it did not last long. It killed a great number of orange trees.

† It is here pretty remarkable, that the Thermometer was lower with a s. than with a n. or n. w. wind, this falling of the Thermometer, with a s. wind is owing, at least in part, to that wind's bringing back at first, by a kind of reflux in the atmosphere, those particles of cold air, which by the n. wind had been driven to the s. but this s. wind having continued for some time, at length causes the Thermometer to rise. For the like reason, when after a s. wind the n. wind begins to blow, at first it makes the Thermometer rise, but depresses it after some time; the same thing happens with regard to our sensation, which is more quick and sudden than even the motion of the liquor in the Thermometer. We sometimes find the n. winds temperate, while those from the s. are chilling.

Note,

from the ROYAL ACADEMY. 321

Note, there were a great many spots in the sun, some as large as the surface of the earth; yet the heat was violent.

1728. Rain, 16 in. $1\frac{1}{2}$ lin. at *Aix* in *Provence*, 24 in. 9. lin.
low. 26 deg. 12, 13, *Febr.* 29, 30th *Decemb.*

Ther.

hig. 75 deg. 17th *Jul.* in the aftern.

hig. 28 in. 4. lin. 8th *Febr.* 10, 15, 16 *Mar.* 13 *Aug.*

Bar. 12 *Decemb.*

low. 27 in. the 7th *Decemb.* wind s. w. with rain,

} 1, 4

1729. Rain, 17 in. lin. $\frac{2}{3}$ at *Aix* 18 in. 3, $\frac{2}{3}$. lin.

low. 9 $\frac{3}{4}$ deg. the 19, 11 deg. 20th, 13 deg. 18th *Febr.* wind

Ther.

N.

hig. 63 deg. 18 *Jul.* at sun-rise, in the aftern. at 78, deg.

hig. 28 in. 4 $\frac{1}{2}$ lin. 6th *Febr.* 9th *Mar.* sky serene, wind

Bar. N. E.

low. 27 in. $1\frac{1}{2}$ lin. 22d *Feb.* weather cloudy, wind s. w.

} 1, 2 $\frac{1}{2}$

1730. Rain, 16 in. $\frac{1}{3}$ lin. at *Aix*, 11 in. 9, $\frac{5}{8}$. lin.

low. 23 deg. 27th *Jan.* wind N. E.

Ther.

hig. 63 deg. 5th *Aug.* at sun-rise, 76 deg. in the aftern. wind

s. w.

hig. 28 in. 5 lin. 22 *Jan.* weather serene, wind N.

Bar.

low. 27 in. 2 lin. the 11th *March.*

} 1, 3.

1731, Rain, 10 in. $3\frac{1}{6}$ lin. this was a very dry year, the crops of grain were very small, and that of forage still worse. The winter was not severe, but the cold lasted a long time.

low. 21 deg. the 25th *Febr.* this thermometer has been em-

Ther. ployed 60 years.

hig. 71 deg. at sun-rise, in the aftern. 82 deg. 10, 11th *Aug.*

hig. 28 in. 4 lin. 10, 12, 13 *Jan.* weather serene, wind

Bar. N. E.

low. 27 in. 1 lin. 9th *Feb.* weather cloudy, wind N. w.

} 1, 3.

1732. Rain, 13 in. $9\frac{1}{6}$ lin. which is a good deal less than the medium, $17\frac{1}{2}$ in.

low. 19 $\frac{3}{4}$ deg. 26th *Jan.*

Ther.

hig. 66 deg. at sun-rise, 2d *Aug.* in the aftern. 74. deg.

hig. 28 in. 5 lin. 3, 4, 5, 6, 7 *Decemb.* great fogs.

Bar.

low. 27 in. 6 lin. 10, 11, 12th *Apr.* weather cloudy,

wind, s. w.

} 11. lin.

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1733. Rain, 9 in. $9\frac{1}{8}$ lin. which is near $\frac{1}{2}$ less than the *medium*.
low. $26\frac{1}{2}$ deg. the 31st Jan. 1st Febr.

Ther.

hig. 71 deg. at sun-rise, 7, 8, 9 Jul. in the aftern. 77. deg.

hig. 28 in. 6 lin. 5, 6, 7, 8 Febr. with great fogs

Bar.

low. 27 in. $4\frac{1}{2}$ lin. 30th March, 2d Apr. weather } 1, $1\frac{1}{2}$.
cloudy wind s. w.

1734. Rain, 17 in. $6\frac{1}{2}$ lin. there fell in July alone, 3 in. 1 lin. $\frac{5}{8}$.
which caused several rivers to overflow, and swept away all the
forage on their borders. At *Utrecht* there fell 34 in. 9. lin.

low. $22\frac{1}{2}$ deg. 22 Nov. 23 deg. 24 Febr. wind high at N. E.

Ther.

hig. 76 deg. 6th Septemb. in the aftern. wind at w.

hig. 28 in. 6 lin. 9th Febr. weather cloudy, wind N. E. }

Bar.

low. 26 in. 11 lin. 26, 27 Dec. wind very high at s. w. } 1, 7.

1735. Rain, 13 in. $10\frac{3}{8}$ lin.

low. 27 deg. 5th Febr. wind N. E.

Ther.

hig. $72\frac{1}{4}$ deg. the 15th July in the aftern. wind s. E.

hig. 28 in. 6 lin. 14th Febr. weather cloudy, wind N. }

Bar.

low. 27 in. 20th Jan. weather cloudy, wind moderate } 1, 6.
at w.

Note, there was a memorable storm this day in *Holland*, *Germany*, *England*, and at some ports of *France*, particularly at *Brest*.

1736. Rain, 15 in. $\frac{1}{3}$ lin. that of June alone was near equal
to what fell the 3 first months being 3 in. $\frac{1}{6}$ lin.

low. 24 deg. 24, 25 Febr. wind N. E.

Ther.

hig. 68 deg. at sun-rise, in the aftern. $80\frac{1}{2}$ deg. 14th Aug.
wind s.

hig. 28 in. $5\frac{1}{2}$ lin. 30th Nov. 1, 2, Decemb. weather }

Bar. cloudy, wind N. w. }

low. 27 in. $2\frac{1}{2}$ lin. 26, 28 Jan. weather cloudy, wind s. } 1, 2.

1737. Rain, 15 in. $10\frac{1}{8}$ lin. what fell the 10, and 11th of
June, exceeded what fell in the first four months; on the above
2 days there fell 2 in. $3\frac{2}{3}$ lin. $\frac{2}{3}$, in the 4 first months 2 in. 2
lin. $\frac{1}{6}$ only.

low. 25 deg. the 29th Decemb. it scarce descended in all

Ther. Jan. to the freezing point.

hig. $75\frac{1}{2}$ in the aftern. the 16, 17, 21 July.

hig.

hig. 28 in. 7 lin. 30, 31 Jan. }
 Bar. } 1, 2.
 low. 27 in. 5 lin. 15th March.

1738. Rain, 14 in. 9 lin. there fell in May 3 in. 8 lin. which is near equal to what falls in the rainy months, June, July, August, the harvest was not plentiful, owing to this unequal distribution of the rain.

low. $21 \frac{1}{2}$ deg. the 18th Jan. weather serene, wind N.
 Ther.

hig. $82 \frac{1}{2}$ deg. the 5th of Aug. in other places the hottest ever felt.

hig. 28 in. $6 \frac{1}{2}$ lin. 30 Jan. 5, 17 Febr. }
 Bar. } 1, 5.
 low. 27 in. $1 \frac{1}{2}$ lin. 22d March.

1739. Rain, 19 in. $1 \frac{1}{8}$ lin. which was the greatest since 1713.

low. $27 \frac{1}{2}$ deg. from the 24th to 28th Nov. weather serene,
 Ther. wind E.

hig. $75 \frac{1}{2}$ deg. the 21, 73 deg. the 22d, $68 \frac{1}{2}$ deg. 20th July.

hig. 28 in. $3 \frac{1}{2}$ lin. 5, 6, 7 March wind N. E. }
 Bar. } 1, 7
 low. 26 in. $8 \frac{1}{2}$ lin. the 5th Febr. wind S.

1740. Rain, 21 in. $6 \frac{2}{3}$ lin. Decemb. alone gave 5 in. $\frac{2}{3}$ lin. which occasioned a greater overflowing of the river Seine, than what happened in 1711.

low. 14 deg. 10th Jan. weather cloudy, wind slack at N. E.
 Ther.

hig. 58 deg. at sun-rise, $69 \frac{1}{2}$ deg. 15th July in the aftern.

The cold was great this year and continued long, and yet the thermometers were at temperate even in May.

hig. 28 in. $5 \frac{1}{2}$ lin. 30th Jun. 1st Jul. wind N. N. E. }
 Bar. } 1, $6 \frac{1}{2}$
 low. 26 in. 11 lin. 4th Decemb. great storm, wind high }
 at S. W.

M. Reaumur's therm. at Mount-cenis in Savoy was in Feb. 16 deg. below freezing, which marks a greater cold than what was felt in 1709 in Paris; in Holland it was not so great in the memory of man.

1741. Rain, 12 in. 10 lin. there fell in Apr. but 2 lin. the hay harvest was very small, but it was repaired by the after-grass in autumn, for there fell in Sept. 2 in. $5 \frac{3}{8}$ lin.

low. 18 deg. 26th Jan. weather serene and calm.

Ther. hig. $61 \frac{1}{2}$ deg. 8th Aug. at sun-rise, $75 \frac{1}{2}$ deg. in the aftern.

hig. 28 in. 7 lin. 18th Febr. with great fogs. }
 Bar. } 1, $1 \frac{1}{4}$
 low. 27 in. $5 \frac{1}{2}$ lin. 19th Decemb. weather rainy.

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1742. Rain, 12 in. $9\frac{1}{2}$ lin. tho' a dry year, the harvest and vintage were plentiful, except the crop of hay, which was small, owing to the little rain that fell in *May*, being but 4 lin. $\frac{2}{8}$.

low. 8 deg. $\frac{7}{8}$ 10th *Jan.* the cold lasted a long time and was Ther. the greatest we felt since 1709.

hig. 80 deg. the 2d *July*, which was nearly the hottest ever observed in *Paris*.

hig. 28 in. 6 lin. 13 *Apr.* weather serene, wind high }
Bar. at N. E. } 1, $3\frac{1}{2}$

low. 27 in. $2\frac{1}{2}$ lin. 11th *Oct.* 4th *Dec.* cloudy, wind S. E.

1743. Rain, 13 in. $2\frac{1}{2}$ lin. this was a dry year.

low. 22. deg. the 7th *Jan.*

Ther.

hig. $74\frac{2}{3}$ deg. the 17th *Jun.* in the aftern.

hig. 28 in. 7 lin. 2d, 21st *Jan.* with great fogs.

Bar.

low. 27 in. $6\frac{1}{4}$ lin. 18th *Jul.* weather cloudy, wind high }
at S. W. } 1, $1\frac{1}{2}$

1744. Rain, 16 in. 10 lin. which was near what falls at a medium, being this year fixed at 16. in. 8. lin. *

low. $21\frac{1}{2}$ deg. 14th *Jan.* being the coldest day, wind N. E.

Ther.

hig. 73 deg. 29th *June*, sky serene, wind gentle at N. W.

hig. 28 in. 7 lin. 4th *Jan.* serene, wind slack at N. E.

Bar.

low. 27 in. 5 lin. 14th *Apr.* wind high at S. W. } 1. 2.

1745. Rain, 12 in. $5\frac{4}{8}$ lin. at *Nismes* 43 in. 3 lin. at *Toulon*
27 in. $5\frac{7}{8}$ lin.

low. $11\frac{1}{2}$ deg. 14th *Jan.*

Ther.

hig. 69 deg. the 6th *July*.

hig. 28 in. 9 lin. 20th *Febr.* wind cold at E.

Bar.

low. 27 in. 4 lin. 26th *Novem.* great fogs, wind S. } 1. 5.

1746. Rain, 14 in. $5\frac{1}{8}$ lin. which is a good deal under the medium.

low. $18\frac{2}{3}$ deg. 15th *Jan.*

Ther.

hig. $69\frac{3}{4}$ deg. 15th *July*.

hig. 28 in. 5 lin. 22d. *Nov.* wind violent at N. E.

Bar.

low. 26 in. 11 lin. 13th *March*, fog, wind at S. W. } 1. 6.

1747.

* These observations are now continued by M. de *Fouchy*.

1747. Rain, 16 in. $9\frac{2}{8}$ lin.
 low. 12 deg. the 13, 14th *Jan.*
 Ther.
 hig. $77\frac{1}{2}$ deg. the 6th *Sept.*
 hig. 28 in. 1 lin. the 9, 10th *Mar.* wind N. E.
 Bar. } 1, 2.
 low. 26 in. 11 lin. the 23d *Nov.* wind very violent at
 s. s. w.
1748. Rain, 17 in. $5\frac{1}{8}$ lin. which is above the *medium.*
 low. $12\frac{1}{2}$ deg. the 12, 13th *Jan.*
 Ther.
 hig. $82\frac{1}{4}$ deg. the 23d *June.*
 hig. 28 in. $6\frac{1}{2}$ lin. 26 *Nov.* great fogs, wind s. E.
 Bar. } 2, $1\frac{1}{2}$
 low. 26 in. 5 lin. 26th *Dec.* wind violent at s. w.
1749. Rain, 19 in. $\frac{1}{2}$ lin.
 low. 18 deg. the 8, 9th *Febr.*
 Ther.
 hig. 83 deg. the 13th *Jul.* the highest it ever rose to in *Paris.*
 hig. 28 in. 6 lin. 29th *Nov.* thick fog, wind E. }
 Bar. this is the greatest difference hitherto observed. } 2, 2.
 low. 26 in. 4 lin. the 18th *Feb.* wind violent at s. s. w. }
1750. Rain, 19 in. 10. lin. $\frac{2}{8}$.
 low. 18 deg. the 9th *Febr.*
 Ther.
 hig. 83 deg. the 13th *July.*
 hig. 28 in. 6 lin. 26th *Jan.* wind N. E.
 Bar. }
 ow. 26 in. 9 lin. the 8th *Nov.* wind violent at s. s. w. } 1, 9.

A P P E N D I X:

C O N T A I N I N G,

A succinct Account of the principal Monsters described in those Memoirs: Also, the two different Systems proposed to the Academy, to explain the Manner or Mechanism Nature employs in their Formation.

AS early as History began to record the transactions of nations, we find accounts of those monstrous productions, of both the human and brute creation. We also find that the wise men in all ages, made some attempts to discover their causes; the common notion was, *that they were manifest tokens of the wrath of the Gods, so many sure warnings of some great disasters that were to befall men.*

Cicero gave into this vulgar opinion. Aristotle and others look'd upon those extraordinary productions as a *lusus Naturæ*; but upon the revival of learning in the last centuries, and the establishing learned societies in most parts of Europe, wherein the *ipse dixit* lost all its credit, every thing now began to be tried by that true criterion, *Experience*, assisted by sound reason; but more particularly after the revival of anatomical knowledge, when it was discovered that all animals, as well *viviparous*

as

as *oviparous* came from eggs, found in the *ovaria* of all females, Physicians began then to look upon all *monsters* as proceeding from the junction first, and confusion after of two *ova* in the womb, whereby some parts belonging to the one were destroyed, while most of those belonging to the other remained. The bare inspection of some *monsters* clearly evinces the truth of this opinion. How plain soever this manner of accounting for those monstrous productions might seem, and how conformable soever to what is discoverable in many of them upon the first view, yet there are some, and those of the first rank among the learned, who hold a contrary opinion, and insist that those extraordinary productions are originally so, which in their opinion, display equally, if not more, the power and wisdom of the *Author*, as those we call perfect productions. This much is discoverable in all *monsters*, that they are composed of more parts than seem to us necessary, or often want such parts as we look upon to be the most essential and necessary for them. This furnishes us with two kinds of *monsters*.

It must be confessed that the dissections of those hetroclite compositions very often assist us more towards the discovering the genuine functions of the several parts of an animal body, than the dissections of those we call regular, perfectly formed bodies, Those *monsters*
born

born without a head do in a more especial manner instruct us herein; for no certain judgment can be formed from those superfluous parts, some *monsters* are found to have; whereas we may from those parts that are wanting, discover the true cause of those functions, observable in all organized bodies, often erroneously attributed to them.

M. *Antoine*, better known by the name of *Maitre-jean*, sent the Academy an account of a most extraordinary production of the kind, of an *ewe*, who dropp'd twin-lambs, one perfectly formed and alive, the other a *monster* and dead, without either *head, neck, thorax, fore-feet, back-bone, or tail*, having only something like a belly, round and oblong, about 8 inches in its greatest length, 6 broad and 3 thick, covered with a woolly skin like all other young lambs; thro' the middle of this belly came the *tunis*, which consisted of 4 large vessels, easily distinguishable; the inside of this deformed mass was still more wonderful; for it had neither *heart, lungs, liver, spleen, kidneys, bladder, spermatic vessels or parts of generation*; all that was observable was the *mesentery*, enveloping the *intestines*, and a kind of *stomach*, but which had not the shape of one; both the *intestines* and *stomach*, such as it was, contained a yellowish viscid matter, not unlike *fæces*; the umbilical vessels were the beginning and ending of all the vessels in
this

this deformed mass; the nerves proceeded from a *pyramidal body*, the bigness of a walnut, which was attached to a small bone placed at the top of this *monster*; for the whole bony fabrick of this *monster* consisted of this bone at the top, the 2 *ossa innominata*, which formed a kind of *pelvis*, and the hinder extremities.

Two animals joined together in some part, or an animal that had such parts double, which shou'd be single, wou'd be by far less surprizing than this half animal. It is easy to conceive how 2 *ova* meeting in the womb, may be so joined together as to receive the necessary nourishment; in such a case, the parts of both may unfold, and so become two animals joined together; or it may so happen that by compression, some of the parts of one of these *ova* may be destroyed; the result in such a case wou'd be, the production of an animal and half an animal; and here the half animal wou'd find in the whole animal those parts it wanted: but as to this half animal before us, which was not joined to any other animal, and yet wanted the most necessary parts (at least such as are universally looked upon to be so) the *heart*, *lungs*, *liver*, it is not easy to conceive how such a body cou'd be formed, much less nourished; how *Nature* cou'd detach a half from the whole, that is so well connected and so indivisible as an ani-

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mal is. I say, it is hard to conceive how *Nature* cou'd retain the most depending or the least necessary parts of the whole, and detach what governs and directs the principal springs of the machine, the *heart*.

It is however observable, how careful *Nature* was even here, to supply some thing to answer the use of the *brain*. The above *pyramidal body* was to supply the necessary spirits for this most extraordinary *monster*.

There are several instances of *monsters* born without a *head*, others without either *cerebrum*, *cerebellum* or *medulla oblongata*. M. *Mery* in 1704, produced one of these *monsters* before the Academy. The *dura* and *pia-mater* only filled the *spine*.

Surgeon *Fauval* produced before the Academy in 1711, exactly such another, perfectly well formed in all the rest of the body; it lived 2 hours, and in that time took some nourishment.

In 1712 M. *Mery* produced such another, and a more extraordinary one in 1720, which had neither head, neck, *scapulæ*, arms or *claviculæ*; it was terminated by the first *vertebræ* of the neck; all below the navel was perfectly well formed; but upon opening it, it had neither heart, lungs, *thymus* or *œsophagus*; the *sternum* was wanting, tho' the ribs were in being, and the *cartilago ensiformis*; neither stomach, liver, spleen, *pancreas* or
small

small intestines, *epiploon* or kidneys were found; the gross intestines only and womb with all its *appendages* were all that were to be seen; there was no *meconium* found in the gross intestines; this clearly evinces that this matter is the recrement of the 2d digestion, the remains of the *bile*, *pancreatic* and other juices, separated in the small intestines only, and not the *fæces* of the *liquor amnij*, as some Anatomists have advanced. These *fætus*'s without a head being all plump, and well nourished, leave no manner of doubt of their being nourished by the *funis umbilicalis*, and by it only.

It would be endless to relate all the histories of such *fætus*'s recorded in those memoirs. However, that M. *Littre* produced before the Academy in 1717, merits some attention.

Nature, he tells us, has shewn so great inconsistencies and so many different kinds of *monsters*, that scarce any thing of that kind can now appear new or strange, but what may be easily conceived to proceed from either the mutilation of some parts, or the addition, or some strange misplacing of others. But this *fætus* M. *Littre* produced had something so strongly resembling what *Fable* has recorded of the *Cyclops*, that he has great doubts with himself, that there is truth couched under the *fable*. This *fætus* had but one eye, placed in the middle of the lower part of the *front*, just

where the *Cyclops* have their eye painted *. The orbits were covered with eye-lids, but without eye-lashes; there was neither nose nor nostrils, nor any sign of them; the ball of this eye was round as natural, and had its coats, thro' which were perceivable two crySTALLINS, one on the right, the other on the left; upon dissecting this eye, the *choroides* was wanting, it was further discovered, that they were two eyes enveloped under one covering †; for each crySTALLINE had its optic nerve, *ligamentum ciliare* and *vitreous humor*; the *aqueous humor* supplied both crySTALLINS. When the head was opened, the brain was found dissolved, no other but the optic nerve was to be seen; this optic nerve pierced the *cranium* mid-way between both orbits; the holes in the orbits, thro' which the optic nerve naturally passes, were here obliterated, or rather were never formed, as there were no nerves to pass thro' them.

It was observable that this nerve, tho' enveloped within the same covering, was distinct and separable into two distinct optic nerves: there were several other strange appearances in this *monster*; the tongue did not seem to be at liberty, the *glottis* was turned back upon the tongue, so had this *monster* lived to take any nourishment, he must necessarily be suffocated, when he drank or sucked, as what he

* See Pl. vi. fig. 1.

† ib. fig. 3.

he took must necessarily fall into the *trachæa*; the rest of the body was well enough.

M. *Mery* in 1709, received from M. *Seyfar*, Physician to his *Danish Majesty*, the draught of a *fœtus*, nearly similar to the foregoing; the head of this *monster* was rather less than what is natural; the face was almost covered with hair; in the middle of the forehead was a fleshy protuberance, under which was placed this one eye; the eye itself was triangular; it had its eye-lids, and muscles, but no optic nerve. This *fœtus* had neither mouth, nose, nor olfactory nerves; the ears were where the chin shou'd be, but were not perforated exteriorly; the rest of the body was well enough.

M. *Lemery*, the strenuous assertor of the union and confusion of two *ovæ*, as the only productive cause of all *monsters*, takes notice in the first place of that monstrous *leveret*, which his father produced in 1700 before the Academy, which had but one head and face, tho' it had 4 ears; from the *thorax* downwards, it was double, and as the lower parts drew different ways, it was easily taken up; there was a small aperture in the place of the gullet, but incapable of receiving nourishment, tho' it must have taken some; for they were taken up alive by a fowler; this little *monster* had 2 hearts, and each his lungs, stomach, &c. all sound and in good order.

M. *Mery* in 1702, produced 2 similar *kit-tins*,

tins, which like the former, made but one body to the navel; in all the rest of their body they were visibly 2 distinct bodies.

The junction first, and confusion after, of two *ova*, are here as visible as the *sun* at noon day; these *ova* upon their first coming into the womb, might very easily be supposed nearly of the same strength, but upon coming nearer to each other, they might readily join, especially as at this period they are in a flexible, fluid state, each *embrio* being scarce as big as a drop of liquor, tho' organized. Upon 2 such *embrio's* joining together, it is not difficult to conceive how the nourishment being common to both, finding now some impediment to unfold such parts, as by their union are compressed, comes to abandon these parts, and so they remain unfolded, while like all other fluids, it runs into the parts that are open, unfolds them, so they become double, as in the 2 little *monsters* before us. Now as the union of the *ova* in the womb is intirely owing to chance, so it is owing to the same chance that some vessels are unfolded before others, and as this fortuitous union of two *ova* is susceptible of an infinite number of combinations, so there may be an infinite number of different kinds of *monsters*.

There are besides the former, many instances of the junction of two *ova* in these memoirs. In 1702, *twin-sisters* joined from
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the breasts only to the navel, were born at *Brest*; they had but one heart, liver and spleen, between them; tho' each had its kidneys, and parts of generation; their heads, arms, and extremities were distinct, and perfectly well formed. There cou'd not be a more visible instance of the union of two *ova*, than these *twin-sisters*.

In 1706, *Abbe Louvois* informed the Academy, that a woman was delivered near *Charleville* of *twin sisters*; the bigger well formed, carried another without a head, joined breast to breast, from the upper part of the *sternum* to the *cartilago xiphoïdes*; in the rest of their bodies they were separate and distinct; the feet of the *lesser sister* reached no further than to the middle of the thighs of the *bigger sister*; each had their respective *anus*; the arms and legs of this *lesser sister* were immoveable; the *bigger sister* had a double ear, which is all that remained of the *lesser sister's* head. Here is another strong instance of this same union of two *ova*.

M. *Morin*, Physician at *Honfleur*, informed the Academy in 1716, of *twins* joined at the navel, with their faces opposite each other; each had its heart, lungs, liver, stomach and intestines, but they had but 2 kidneys, and one common *anus* for both. This likewise is as manifest an instance of an union of two *ova* as one cou'd desire.

But

But the *fœtus* M. Lemery brought to the Academy in 1724, seemed to unite the suffrages of the whole Academy in favor of his system, *viz.* that *monsters* do really proceed from the fortuitous union of two *ova* in the womb, where thro' compression, some parts remain unfolded, while others are unfolded double.

This *monster* of M. Lemery's was exteriorly quite perfect, except its having 2 heads, each of which was fixed on its own neck, and interiorly each had its *œsophagus*, stomach, *trachæa* and lungs, and but one heart, which was placed in the middle of both lungs; this heart had but one *ventricle*, with 2 apertures for the *arteria pulmonalis* and *aorta*, and but one membranous sac in the place of auricles to receive the blood of both *cava's* and pulmonary vein; the whole spine was here double *. Both sexes were distinct and placed one over the other.

How extraordinary soever this *monster* may appear, M. Lemery confesses it was not the first; M. Pestalosi, Physician at Lyons, keeps preserved in his cabinet such another, which was born in 1721, with this small difference, that both heads are laterally joined together. *Pareé*, among his accounts of *monsters*, has 2 very like this of M. Lemery's; and here M. Lemery thinks we cannot, for many reasons, refuse

* See Pl. vi. fig. 2.

refuse assenting to the system of *monsters* proceeding from the confusion or union of two *ova*: for to suppose *monsters* were originally created so, is flatly inconsistent with the *order, simplicity, and uniformity* observed by the Author of *Nature* in the production of the several species of animals, which by His appointment are to perpetuate their several species to the end of time; nor indeed is it conceivable, the Author of *Nature* shou'd place in the same *ovarium* two *ova*, one of which upon the unfolding shou'd prove to be a *monster*, while the other shou'd appear a perfect animal.

As to what is said, "That we are not to look upon *monsters* as the work of chance, or of a *blind plastic Nature*, or the effect of some fortuitous *derangement*, in consequence of some irregular motions of the mother, but rather as bodies, whose whole structure manifest a *well laid Design*, contrived by a free and intelligent Agent, who equally shews both His power of acting, as well as His wisdom in the choice of the means he employs, the execution of which *Will* is manifested by the effect, and that herein is displayed the fecundity of the mechanism of the *Creator*, equally as in the production of the most perfect animal bodies, which besides the many other proofs we have, this (of producing *monsters*) tho' out of the common way, fully shews the freedom, as well as the

power of acting of the *Author* of this mechanism, and which is found so diversified in works of this kind, wherein is discovered as extraordinary an inward structure, as the exterior figure appears to differ from that of the most regular, and perfect bodies of the same species." M. *du Verney* the elder, 1706.

M. *Lemery* replies, that tho' the power and free-will of the *Creator* be infinite, yet it is impossible His infinite free-will shou'd produce any thing inconsistent with His infinite wisdom. The divine attributes are inseparable, and necessarily connected with each other; nor indeed does it appear how it is acknowledging the divine attributes, or paying due homage to the infinite free-will of the *Author* of all things, to make him the immediate cause of *monsters*, no more than it wou'd be doing honor to an eminent Watch-maker, whose honesty is allowed to be equal to his abilities; who had been remarkable for making good, regular-going watches, shou'd thro' *caprice*, take it into his head, to mix a number of good watches with others as remarkably bad, owing to the oddness and uncommon variety of their movements; and all this thro' a premeditated design, which it is confessed must have cost him equal, if not more time and trouble as his regular, well-going watches did; what opinion shou'd we have of such a workman? wou'd it be doing him honor to say, that his great

great abilities, as well as his freedom of acting, are as much displayed, by making those irregular, uncommon watches, whose movements upon a close inquiry, betray as great skill in the maker, as the most regular well-going watches he ever made. This however, is the case of the mixing in the same ovarium the eggs of *monsters*, with those of regular, perfect animals, which does not in the least seem to do honor to the *Author* of all things, much less correspond with the notion we ought to have of the wisdom of the *Creator*, and of the regularity, simplicity, and uniformity observable in all the works of the *Creation*.

The first who publicly avowed this system of original *monsters*, was M. *Regis*, in the 3d. Volume of his *Philosophy*, printed in 1690. He there says, that "There is no reason why we shou'd not believe *God* the *Author* of *monsters*, as well as of the most perfect animals of the same species; for, adds he, we may safely say, that there is nothing in *Nature*, except the *moral evil* of our actions, but what *God* is the *Author* of: It wou'd, continues he, be an idle evasion to say, that tho' such and such things happen, *monsters* for example, that *God* is not the immediate cause of them, he only permits natural causes to have their effects. The laws of *Nature*, those natural causes differ in no wise from the Will of *God*; wherefore when any one says, that such a

thing was produced, according to the laws of *Nature*, tho' *God* never intended it, is exactly the same, as if one shou'd say, the *Will of God is inconsistent with itself*, which is not only absurd, but even impious to assert."

In all this, it is sufficiently obvious, that this system was invented, purely because it easily accounted for several complicated *phenomena*, observable in the mechanism and formation of *monsters*; yet notwithstanding, the abettors of this system are obliged to confess, that there are several *monsters* in *Nature*, which without manifest blasphemy, cannot be referred to the *Creator*, as the immediate cause of them.

In the first place, we every day observe in the vegetable kingdom, 2 apples, 2 pears, 2 cherries, 2 nuts, which by coming into too close contact, run into, unite and join each other, so as to make but one apple, &c. which must be confessed to be a kind of *monsters* in their *Nature*. Will the abettors of this shocking system, be bold enough to affirm that this apple, &c. was originally created so? How often have two separate trees, by growing near each other, become so confounded, as in time, to form but one trunk? two branches of 2 trees of the same species, are every day known to unite, so as to make but one. There is to be seen in the forest of *Boulogne*, a pregnant instance of 2 such branches of an oak, meeting

ing and uniting so as to become one branch only. This same mechanism is every day observable in our Nurseries, where different *scions* are grafted on the same, or on different stocks, and yet they bring forth fruit according to their own kind, and not according to that of the stock they are grafted on, and receive their nourishment from.

In the next place, it is well known that upon the fortuitous concurrence of 2 different animals, a dog and a cat for example, a *monster* is produced; such a *monster* surely cannot be referred to, or be numbered among those *original monsters*; on the contrary, in my opinion, there can be nothing so apposite to overthrow this shocking system of *original monsters*, as a serious attention to the formation of such *monsters*, as partake of both species; for this half dog and half cat, doth evidently manifest a change, a confusion in the *ovum* of the one, by the admixture of the *semen* of the other; and as this confusion and change in the *ovum* was intirely owing to the fortuitous concurrence of 2 animals of different species, so all monsters hitherto seen, or that shall ever be, may and ought to be referred to the fortuitous union and confusion of two *ova* in the womb, and not attribute such monstrous productions to the SUPREME BEING as their immediate cause.

This affair lay over, most of the Academy
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subscribing to *Lemery's* opinion, 'till M. *Winslow* in 1733, stepped forth in defence of M. *du Verney's* opinion, of *original monsters*. He there tells us, that he had long sought to clear up this matter to himself, by examining with all the care and diligence he was capable, to discover some *vestiges* of this fortuitous union of 2 *ova*, and more particularly in a girl, 12 years old he had lately dissected, who had another growing out of her belly; the upper part of the belly of the lesser adhered to the lower part of the *sternum* of the bigger sister; what remained of both bellies was separate, as were their thighs and legs, but those of the lesser were without motion, by reason they had no muscles; the stomach, *duodenum*, *jejunum*, and *ileum* in the bigger sister were natural; but the *ileum* towards its end was divided into two; the one continued its natural course in the bigger sister; the other was dispensed to the lesser, which, with the gross intestines, the kidneys, *ureters* and bladder, was all that was found in her belly; the *rectum* opened into the bladder, which terminated in a kind of *rima*, thro' which both the urine and *fæces* were discharged together; no parts of generation were found; the hips, thighs, and legs of this little sister were plump and well formed, by the skin and fat only; there was not one single fleshy or muscular fibre to be seen.

M. *Winslow* not being able to discover satisfactorily

factorily to himself, any *vestige* of this union of two *fœtus's* in this girl, or in the *Faun* with two heads, which had been sent by the *King's* orders to be dissected, began to consider that it was not possible to account for those productions, according to the system of the union of two ova, consequently that there must necessarily be original monstrous conformations as well as regular ones; he accordingly by way of proposing his doubts, and objections against the system of *monsters* by a fortuitous chance, gives a historical account of most of the *monsters* described in the Memoirs of the Academy, or those related in other authors; and herein he considers not only such, as are properly called *monsters*, but likewise such as have any extraordinary external, or internal structure, that have either too many, or want some parts, or have them otherwise confused, or transposed from their natural and common situation.

M. *Winslow* begins his account of monstrous conformations with that strange transposition of all the parts, contained in the *thorax* and *abdomen*, in a soldier at the invalids of 72, who was opened in 1688, wherein the heart was in the right side of the *thorax*, the liver in the left side of the abdomen.

The same transposition of parts was found in 1650, in an *assassin*, who assassinated a gentleman thro' mistake, for the Duke of *Beaufort*; such another case is related in the Memoirs of *Joly*, of a Canon of *Nantz*. The

The Journal of *Peter de St. Romuald*, mentions a similar Case, of a Commissary of the Guards in 1657, and *Fr. Hoffman* relates another Case, of a Woman opened at *Hall* in 1671.

But relative to this extraordinary transposition of parts, *M. Winslow* here recollected that *Mr. Enguehard*, one of the Physicians of the *Hôtel Dieu*, not perceiving the beating of the heart on the left side, gave the patient over, till one of the Surgeons boys following him, told him he felt the heart beating under the right breast.

The great *Riolanus* observes, that a diligent, attentive Physician by feeling the abdomen, will readily discover such a transposition of parts; when he finds a large *mass* or substance in the left side, and but a very small one in the right *hypocondrium*, if at the same time he perceives a beating of the heart under the right breast, he can no longer hesitate, concerning this transposition of parts. *Riolanus*, there exhorts Physicians to be for the future more circumspect, to examine their patients with more care, and not to confound the liver with the spleen, so as to take one for the other.

M. Winslow cannot comprehend how this transposition of parts can be accounted for, according to the system of *monsters* being owing to

to some fortuitous chance; nor can he find how it is possible to refuse admitting original monstrous conformations.

In 1699, M. *Chemineau* produced before the Academy, a heart that had three ventricles, which communicated with each other, like that of the *Tortoise*.

In 1700, M. *Mery* related the history of a monstrous *fœtus*, whose spine was so distorted, that the parts of generation, the knees and feet were behind, this monster wanted the summit of the head, the *sternum*, and abdominal muscles, so that the three cavities of the body were open.

In 1709, M. *Littre* found the *funis* two thirds shorter than usual; this furnished but one artery, which came from the right *iliac*, thro' the middle of the *hippogastric* region, and did not join the vein, for two inches of its length, the umbilical vein entered the belly at the upper part of the groin, and ascending along the muscle *psoas* to the last *vertebra* of the back, it penetrated the *diaphragm*, and emptied itself into the middle of the *cava descendens*; in this traject it received the two *iliacs*, the lumbal, the two emulgents, the vein of the renal gland and left diaphragmatic vein; the intestine *colon* terminated above the *os pubis*, where it formed an artificial *anus*; M. *Littre* met the same in two other *fœtus*'s.

M. *Winslow* apprehends there is no explaining these extraordinary structures, otherwise than referring them to original monstrous conformations.

In 1712. M. *Vaubonnois* sent a well attested account of a Child, still-born at *Grenoble*, whose heart lay exteriorly on his breast like a medal, but capable of moving back and forward; it was well formed, but had no *pericardium*; it was attached to its vessels, which were visible, and came out at the lower part of the neck.

In 1716, M. *Mery* found two large *exomphales*, that contained a full grown liver, the stomach and intestines; he adds, this must be an original conformation.

In 1705, M. *Littre* found a double matrix. *Riolanus* in his *anthropographia*, mentions the dissection of a woman in the College of the *Lombards* in 1599, who had a double matrix; in 1615, he dissected himself another, who had the same; how is it possible to explain the formation of this double matrix from the union and confusion of two Ova's; or conceive how all the other parts had been destroyed to the womb?

Riolanus relates that in 1605, twins were born near *Oxford*, both joined together. When one, says he, was gay, the other appeared sad, when one slept, the other was awake. These
twin-

twin-monsters lived 15 days ; one died a day before the other.

The same *Riolanus* mentions another monster, with two heads, two bodies, four arms, and but two thighs and legs, this monster was born in *Northumberland*. The *King* gave orders to have it properly taken care of. It was taught musick and languages, in both which it made a great proficiency ; these twin-brothers were observed to have different inclinations, to differ in opinion, and even quarrel ; at other times they appeared to consult each other ; this was remarkable, if any hurt their lower extremities both were equally affected ; but if either of their bodies was hurt, the other had no sense or knowledge of it ; this was further manifest, by the death of the one, which happened many days before that of the other ; the survivor pined away, as the other putrified ; this monster lived 28 years, and died when *John* was *Viceroy of Scotland**.

Lemery replies, and contends, that it is obvious thro' the whole of all the above cases, that *M. Winslow's* chief reason, why he has recourse to *original monsters*, is intirely owing to the difficulty he finds to account otherwise.

* It is probable, tho' *Riolanus* does not mention it, that this was the monster *Buchanan* says, was born near *Glasgow* the 10th of *August*, 1490, and died when *John Duke of Albany* was *Regent of Scotland*. *Bond's* transl. Vol. 2. p. 100.

for those monstrous productions, and that he has been confirmed in this opinion, from his not being able to trace or discover any *vestiges* of this union of two *Ova* in the girl, who had another growing out of her, or in the *Faun* with 2 heads, both which he says, he examined with all the care and accuracy he was capable of ; but as he does not totally exclude this fortuitous union of two *ova*, as often as the footsteps of this union are observable, so M. *Lemery*, thinks he shou'd from *analogy*, and more particularly upon duly contemplating the *symmetry* and *uniformity* of all the works of the *Creation* admit, that such *monsters* wherein the *vestiges* of this union, &c. are not quite so observable as he requires, to be equally the effect of the fortuitous union, &c. of two *ova*, as where this union is manifestly visible. *Par utrobique ratio*, how unphilosophical wou'd it be to conclude, " I have upon many occasions taken infinite pains to inform myself of this matter, and yet notwithstanding all my diligence, the utmost accuracy I was capable of, I never cou'd trace or discover in those complicated *monsters*, any thing like this *union*, &c. of two *ova* ; consequently there is no such *union*, &c." This M. *Lemery* insists, is the strongest argument M. *Winslow* has hitherto brought against the production of *monsters* from the fortuitous union, &c. of two *ova*.

But

But, adds M. *Lemery*, if no monsters are allowed to proceed from the fortuitous union, &c. of two *ova*, but where those *vestiges* M. *Winslow* requires are visibly observable, we shall be often obliged to refer to those *original monsters*, what our very senses demonstrate to us, to be the effect of mere *chance*; for instance, a monster produced by the fortuitous concourse of two different animals, a *Cat* and a *Dog*, for example, (the abettors of original monsters do not pretend this animal was *ab origine* created, an *original monster*); now, shou'd the most accurate Anatomist, and ablest Physician dissect and examine this *monster*, he will be obliged to confess, that he finds as much difficulty, and is as much, if not more at a loss, to discover what part *chance* had in its production, as he does meet with in the like anatomical examination of those *monsters* we contend are produced by the fortuitous union of two *ova*, and yet this *monster* is allowed to be the effect of that fortuitous concourse of two animals of different species; wherefore tho' we shou'd not be able, by the most scrupulously exact anatomical disquisition, to discover those requisite *vestiges* of this union, &c. of two *ova*, yet that is not a sufficient reason to reject this fortuitous union, &c. we shou'd rather impute this to the imperfection and finiteness of our understanding, and with all humility attribute the production of all *monsters* to the
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fortuitous union, &c. of two *ova*, tho' this union shou'd be no more discoverable by us, than the confusion, &c. of that *monster*, which we for certain know, was produced by the fortuitous concourse of two different animals is, or cou'd be discovered by us.

Extracts from the Elogiums of some of the principal Academists, whose Memoirs are here abridged.

When we hear of any man distinguished by a superior knowledge or skill of any kind, it is natural for the mind to be solicitous and inquisitive about the several circumstances, which have concurred to render him thus conspicuous. When therefore, we reflect on the extensive knowledge, deep researches and important discoveries of those learned Academists, whose Memoirs we have here abridged, we feel our minds as if struck with certain ideas of grandeur and surprize, while the soul remains on the rack to know something more about the men, their turn of mind, and the several steps, by which they have gradually advanced to honor, and paved their way to immortal glory. It is upon this presumption, that the inquisitive reader will be anxious to know some further particulars, relative to the lives of those great men, that the following extracts are here added. We begin with M. *Dodart*, Botanist.

M. *Dodart*

M. *Dodart* was the son of a *Burgois* of *Paris*, born in 1634. *Guy Patin*, an eminent Physician at *Paris*, makes honorable mention of him in his 186th letter, viz. "that he was the most learned and discreet man of the age, a prodigy for wisdom and learning;" and in his 190th letter, "that he was a discreet, modest man, who had *Hippocrates*, *Galen*, *Aristotle*, *Cicero* and *Fernellius* by heart, tho' he is not 26 years old." This eulogy of *Patin's* is the more considerable, as he is known not to be lavish of his praises, but rather wrote with a freedom even to excess, in those familiar letters to his friends.

A Physician who has nothing else to recommend him but merit, must wait years to establish a character; *Dodart* however, is an exception, he did not owe his preferment either to the gilded chariot, or to powerful family-connections; he had no pretensions to either, his merit alone is what recommended him to the Dutchess of *Longueville*, who being a good judge of merit, the ablest Physician, had he not a great fund of piety, wou'd not have been agreeable to her; but finding both those qualities united in M. *Dodart*, she nominated him her Physician; the Princess Dowager of *Conti*, from the same motives, honored him, some short time after, with the same confidence; but what probably redounds as much to his character as the friendship of those great per-

personages is, that he was held in great esteem by all those allied to both Houses. Those conversant in life well know, it requires both conduct and wisdom to keep well with our superiors.

M. *Dodart* was admitted a member of the Academy in 1673; the Academy had before begun a general history of plants, a work of a vast extent; a long inquiry and a nice discussion were absolutely necessary for such a work; *Dodart* possessed both in a sovereign degree; accordingly in 1676, he placed at the head of this volume (memoirs to serve for a history of plants) a preface, wherein he gives an account of the design of the work, and of what had been done therein to that time. This spirit of discussion, of which he was so great a master, is very contrary to that of decision; but it is more the business of the Academy to examine than to decide, diligently to trace *Nature* by exact observations, and not prevent her by rash judgments, nothing so becoming our reason as to appear sometimes diffident in our conclusions.

Tho' M. *Dodart* applied chiefly to Botany, yet by closely following the practice of Physic, he soon discovered how useful a thorough knowledge of the doctrine of insensible perspiration was to render it successful. Physicians in all ages had some notion of this matter, but so vague and general was their knowledge, that

that the most they knew was, that there was such a thing, till the inquisitive *Sanctorius* reduced this knowledge to *weight and measure* and shew'd the proportion it bore to the sensible evacuations ; he well knew that a body might perspire 7 or 8 pounds in 24 hours, but he did not well consider the difference of this discharge in the different ages, sexes and climes ; this was reserved for the industrious *Dodart*, who by an experience of 33 years discovered, that perspiration is more copious in the young than in the old ; and it is very fit it should be so, the sun is constantly going down on the old, this discharge therefore becomes less and less every day.

Sanctorius fixed the greatest perspiration in the mid-time between the two great meals : but M. *Dodart* found it was greatest the first hours after meals. He likewise verified on himself how far abstinence and fasting were capable of reducing the body ; he strictly fasted the Lent of 1677, never eat or drank till between 6 and 7 in the afternoon, living most of the time on *legumes*, and in passion-week on bread and water only ; upon weighing himself easter-eve, he found he lost in 46 days, 8 pounds 5 ounces, which is near one 14th of his whole weight ; but upon returning to his usual manner of living, he found he recovered 4 pounds in 4 days, and that in 8 or 9 days he wou'd re-

cover the whole of what he lost; this however informs us, how soon a man may repair the wastes he might make, provided he has not been reduced too low by copious evacuations, long sickness, or abstinence; he made the like observation on the effect of bleeding, to wit, that a person in full health was 5 days before he recovered the loss of 16 ounces of blood; could it be known how long a sick man wou'd require to repair the like loss by bleeding, this wou'd throw a vast light on the doctrine of bleeding in disorders, and regulate the quantity necessary to be drawn in each malady; but this requires more experiments and time than any one man can ever hope to be able to make. He died in 1707, aged 73.

M. *Tournefort* was descended of a good family of *Aix en Provence*, and born in 1656; he is universally allowed to have carried botany to a higher degree of perfection than any who went before him, by enriching it with numberless discoveries, advancing it into a Science, giving it that air of accuracy it wanted, and smoothing all its difficulties, all which must procure an uncommon satisfaction to be acquainted with the education, genius, disposition and studies of this celebrated Botanist. As his father intended him for the church, he sent him to the Jesuits College in *Aix*; but he shewed so early an inclination for Botany, that he was often known to neglect his class to search for plants in

in either the fields, or in such gardens in the town, where plants were cultivated, and where access was denied him, he wou'd get over the walls, where he once run a risque of being stoned to death by the owners, who took him for a robber; he however soon became acquainted with all the plants in *Provence*; he had no less a passion for anatomy and chemistry, and the other parts of phisic, which so ingrossed his affections, as to drop all thoughts of theology; he was encouraged in this resolution by his uncle, an eminent Phisician, and brother of his father's; accordingly when he became his own master on the death of his father, in 1677, he ranged the mountains of *Dauphiny* and *Savoy*, from which he returned with a large quantity of dry plants, which were the beginnings of his curious herbal.

In 1679 he went to *Montpelier*, where he perfected himself in Anatomy and Phisic; the garden of plants established there by *Hen. IV.* rich as it was, cou'd not satisfy his unbounded curiosity; he ranged all the grounds within 10 leagues of it, and discovered plants unknown to the inhabitants; in 1681, he went herboring on the mountains of *Catalonia*, where he was followed by both Phisicians and Students, and in his return, ranged the *Pyrenean* mountains, where he was often robbed by the *Spanish Miquelets*, and returned after to *Aix*, where he ranged in his repository of herbs, all

the plants he had collected about *Provence*, *Languedoc*, *Dauphiny*, the *Alps* and *Pyrenean* mountains; the pleasure of seeing so many plants intire, well preserved, and disposed in a beautiful order in large paper-books, must certainly amply recompence the toil and pains they had cost him.

M. *Fagon*, then 1st Phisician to the Queen Dowager, and who in a more especial manner had cultivated botany, hearing of M. de *Tournefort*'s great fame and extensive skill in botany, looking upon him as the fittest person to cultivate and improve that science, invited him to come to *Paris*, where before the end of 1683, he procured him the place of professor of botany in the King's Royal Garden of Plants, established there by *Lewis XIII.* for the instruction of the Students in Phisic. He made after several voyages to *Spain* and *Portugal*, as also to *Holland* and *England*, where he saw several plants he never had seen before, and conversed with some of the greatest botanists of the age. The celebrated botany-professor of *Leiden*, *Paul Herman*, conceived so high an opinion of his merit, that he offered to resign his professorship in his favor, and promised him in the name of the States-General a salary of 4000 livres a year, and withal gave reason to think of an augmentation to it, when his merit came to be better known; but tho' his salary as professor

feffor of botany in the King's Garden was very moderate, yet he preferred the love of his country to any advantage he might receive out of it.

In 1691, he was admitted a member of the Royal Academy, and in 1694, he published his elements of botany, which for the sake of foreigners he translated into latin in 1700, considerably enlarged, under the title of *instituciones rei herbariæ* in 3 volumes in 4to. the first contains the names of the plants distributed according to his own system, the other two the figures accurately engraved, to which is prefixed an introduction to botany, containing the principles of his own system solidly established, and a history of botany and botanists, collected with uncommon care. M. Ray however, attacked him upon some points of his system, but M. Tournefort answered him with that *decorum* and politeness, which always bespeak candor and a love of truth.

In 1698, he took his degree for phisic in the faculty of *Paris*, and in the same year published his history of plants that grow about *Paris*, together with their use in medicine.

His herbal, tho' the compleatest that perhaps had hitherto been seen, was not his only occupation; his cabinet was rich in other natural productions, such as *Marcasites*, extraordinary petrifications, shells of various kinds,
&c.

&c. which were valued by the curious at 50000 livres.

In 1700, he received orders from the King to go into *Greece*, *Asia*, and *Africa*, to discover those plants described by the ancient *botanists*, and such others, as had escaped their notice; he had likewise in his instructions to make all such observations, as might tend to the improvement of natural History, Geography, both ancient and modern; he was likewise to make his observations on the religion, morals and commerce of the several nations he shou'd visit; Messrs. *Aubriet*, an able designer and painter, and *Gundelsheimer*, a skilful German botanist were appointed to accompany and assist him; during the 3 years he was upon this Journey, he diligently searched all the isles of the *Archipelago*, the borders of the euxine or black sea, *Bitunia*, *Pons*, *Armenia*, *Cappadocia*, and *Georgia*, even to *Erivan* the frontiers of *Persia*, and returned by *Armenia*, *Galatia*, *Mysia*, *Lydia* and *Jonia* to *Smyrna*.

Africa was comprehended in his voyage, but as the plague raged then in *Egypt*, he took shipping at *Smyrna* for *Marseilles*, where he arrived, loaded with the spoils of the *East*, having in this Journey discovered 1356 new *Species* of plants, most of which ranged themselves naturally under the 673 *genus's* of plants he before established in his *inst. rei herb.* he added 25 *genus's* for those *exotics*, which he published

published in his *corrolarium inst. rei herb.* in 1703.

Upon his return to *Paris*, he laid himself out, to resume the practice of phisic, he had abandoned for his Journey to the *Levant*; but he soon was convinced it is not so easy to regain the confidence of the public, especially where they think they have been slighted or neglected; he ever after closely applied to his employments, as *Professor of Botany* in the *King's Garden*, *professor of Phisic* in the *Royal College*, and *Pensionary Botanist* of the *Royal Academy*; what chiefly occasioned his death was a violent blow he accidentally got on his breast, which he greatly neglected; he died in 1708, aged 53.

He bequeathed his collection of natural curiosities to the King, for the use of the *Litterati*, which is now kept in the *King's Garden*; his books of *botany* he left to the Abbot *Bignon*, president of the Academy.

M. *Mery* was born in *Vatan* in *Bery*, in 1645. But soon growing tired of grammar-rules, he applied himself to his father's profession, who was a Surgeon. At the age of 18, he came to *Paris*, to improve himself in Surgery at the *Hotel Dieu*, indisputably the best school for Surgery in *Europe*.

In 1683, at the request of M. *Lamy*, who then intended to publish a second edition of his *Anatomy*, he gave a description of the ear; in
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the letter he sent the doctor along with the said description ; he tells him, “ as he is but a simple Surgeon of *Hotel Dieu*, it wou'd be presumption in him to attempt to describe so delicate a part as the ear, which adds he, is so little known, even by the greatest anatomists ; however, continues he, laying all prejudices aside, I am bold to say, I am able by ocular demonstration to support what I now send you, concerning the structure of that organ.”

In 1683, he was appointed Surgeon-major to the *Invalids*. He was called the year following to the assistance of the Queen of *Portugal*, but she died before he cou'd get there ; he had both in *Portugal*, and in his return thro' *Spain*, advantageous offers made him ; but he preferred his own country to every other advantage out of it.

In 1684. he was admitted a member of the Royal Academy, and in 1700 he was appointed first Surgeon to the *Hotel Dieu* ; he was now known to say, he had no other wish left.

In his predecessors time the young Surgeons, who came to the *Hotel Dieu* for their instruction, had at chance times only, lectures made to them ; M. *Mery* by his interest with the Governors, had an anatomical theatre built, where he ever after gave a regular course of anatomy and surgery, for the use of the young Surgeons, that resorted to said hospital.

M. *Mery*

M. *Mery* was remarkably exact in all his descriptions, and always took care to be well assured of the matter of fact ; he was no way forward to form systems, and was as reserved in adopting those of others ; he shewed this in a most particular manner, in refusing to adopt the general received system of generation of all viviparous animals, *by ova*.

He was indefatigable in his anatomical researches, there are several of his Memoirs among those of the Academy ; but what made the greatest noise, was his dispute about the use of *foramen ovale* ; he supported himself in this dispute from 1699 to his death, against all the anatomists of *Europe* ; he published a treatise in 1700, to support his opinion, to which he joined a criticism on *Frere Jaque's* manner of cutting for the stone, which decryed his method of operating *.

What has been said of M. *Cassini*, that the Heavens incessantly set before his eyes the *glory* of their *Creator*, might with the same propriety be said of M. *Mery*, that the dissections of animals displayed the same *glory*, nay even in a more advantageous light. *Astronomy* and *anatomy* are undoubtedly the sciences, wherein the

* The ill timed criticism of M *Mery* on *Frere Jaque*, was in the opinion of the greatest Surgeons then and now living, the greatest injury he cou'd do the public ; for thro' his means, an operation, which long since might be so far perfected as to be of general use to mankind, was laid aside. See Vol. I. p. 363 & seq.

attributes of the SUPREME BEING are most evidently displayed ; the one declares his *immensity*, by the creation of those vast celestial regions ; the other his *infinite wisdom*, by the surprising mechanism, observable even in the smallest cheese-mite ; and herein *anatomy* seems to have the advantage of *astronomy*, as much as *omniscience* excels *immensity*. He died in 1722, aged 77.

M. *Littre* was one of the 12 sons his father a merchant of *Cordes* in *Albigois* had ; after he had finished his collegiate studies in his own province, he went to *Montpelier* to study physic ; *anatomy* was his darling passion ; at the age of 42 he came to *Paris*, where he soon became acquainted with the head Surgeon of the Hospital *Salpetriere*, by which means he procured 200 bodies, which he dissected in the winter of 1681 ; his great knowledge in *anatomy* soon brought crowds of hearers about him, which as soon excited the envy of others, who gave him all the obstruction they cou'd ; to avoid their insults, he removed to the *Temple* (a privileged place), but the malice of his enemies followed him even there ; for one of the under-officers of the *Temple*, whom M. *Littre* did not think worthy of his attention ; suffered the body he was then dissecting to be carried off in triumph ; their malice did not stop here, the Surgeons thro' their interest with the chief magistrate of *Paris*, had M. *Littre* severely mulct,

mult, for dissecting bodies without his licence.

Notwithstanding all those mortifications and oppositions, his reputation increased daily, and the number of his hearers became rather greater; they did not expect any florid discourse from him, but in recompense they knew him to be scrupulously exact in all his descriptions; eloquence, or even an agreeable manner of enouncing himself he had not; a *simple anatomist* it is true, may do well without either, all he has to do is, to demonstrate to his audience the parts he has under his knife: but how can a Physician be dispensed with? he is constantly obliged to form conjectures about very abstruse matters, and to support those conjectures by sound reasoning, as well to keep up the hopes and confidence of the patient; and what is more, he is very often obliged to speak, purely to amuse his patients; for he has to do with men, precisely at a time, when their understanding is weaker than ever; this is more so among the *beau monde*, and still more among two thirds of this *beau monde*, where a Physician has often as much to do with the fancies of his patients, as with their lungs or liver; a Physician that expects to be in *vogue*, must know how to physic the fancy, which requires as particular specifics as the body; in short a Physician, who has not the gift of speak-

ing, must in recompence have that of working miracles.

M. *Littre* wanted every other qualification to make him known, but real merit. M. *du Hamel*, who was a judge of true merit, who well knew how to distinguish it from those adventitious talents, nominated M. *Littre* for his *Eleve* in Anatomy, upon the re-establishment of the Academy in 1699. There are many of his memoirs among those of the Academy: his anatomical preparations, which were very curious, he sold to some *English* students, some time before his death, as he then began to lose his sight. He died in 1725, aged 76.

Note. HARTSOEKER is here added, to shew how he came to make that bold Discovery of Animalcula in Semine Masculino.

Hartsoeker was the son of a *Dutch* Minister, who intended him for the Church; but he shewed early so great an inclination for the Mathematics, that what pocket-money he got, he saved it to give it to a teacher of the mathematics, who promised to perfect him in a short time in that science: this man ground glasses, of six inches *focus*; the scholar soon learned his manner of grinding them, and became after a great proficient in that branch: one day as he happened to put a glass-wire into the fire, he found it soon blistered, forming

ing thereby a kind of *microscrope*, which magnified objects considerably ; it was with this *microscrope*, that at the age 18, he made that bold discovery of *animalcula in semine masculino*, but had not the assurance to divulge it. He suspected at first, this might be owing to a morbid state of that fluid ; but taking courage, he sometime after divulged the secret to his master and a third person ; these verified often the same thing ; they went further, they examined the *semen* of several animals ; that of a dog contained *animalcula* like those found in man, *tad-poles* ; but those of the pigeon and cock resembled more a worm, or an eel.

These three men kept the secret a long time ; when they demonstrated those *animalcula* to others, they pretended they were contained in the *saliva*.

M. *Huygens*, who came some time after to the *Hague* for the recovery of his health, hearing that a young man in *Rotterdam* demonstrated *animalcula* in the *saliva*, expressed his desire to see them ; *Hartsoeker* proud of an opportunity of being known to a man of M. *Huygens* eminence in mathematical knowledge, flew to the *Hague* with all his *apparatus*, and revealed the whole secret to him.

M. *Huygens* returning soon after to *Paris*, brought *Hartsoeker* with him, and strongly recommended him to M. *Cassini*, who let him
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see all the mathematical instruments in the Observatory in *Paris*; *Hartsoeker* in return, ground him glasses of 600 feet *focus* for a telescope: In this *interim*, M. *Huygens* published in the *Journal des Scavans*, that by a *microscope* of a new invention, he had made some curious discoveries, and particularly of little *animalcula* in animal fluids, without making any mention of *Hartsoeker*. *Hartsoeker* became jealous of the honor of the discovery, but excited more by M. *Huygens*'s enemies, who prepared for him a paper full of invectives, which he intended to publish in the same journals; the publisher of these journals very prudently sent this paper to M. *Huygens*, who sending for *Hartsoeker*, upbraided him with his ingratitude, but more for his accepting the assistance of his enemies to blast his good name; but adds *Huygens*, as to that wherein you think yourself injured, I shall myself do you justice; which he accordingly did. *Hartsoeker* was well pleas'd to come off so well; he was admitted a member of the Academy in 1699, and died in 1725.

Guishard du Verney was the son of a Physician, and born in 1648; after he had finished his studies at *Avignon*, he came to *Paris* in 1667, and soon after made his appearance at the *Abbé Bourdelots* conferences. He demonstrated the brain in those learned assemblies, that met in those days at M. *Denis*, an
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eminent Physician then in *Paris*, as far as *Steno, de Graaf, Swammerdan* and others then knew of its structure; he had a very happy elocution, and was extreme clear, tho' concise in his discourse.

M. *du Verney* was admitted a member of the Royal Academy in 1676, in the place of the famous M. *Pequet*. The Academy was for some time before employed in collecting materials for the natural history of animals. M. *du Verney* has had a great share in this collection; he went two years successively to *Britanny* and *Bayonne*, to dissect the fishes of those seas; he says, the ear of the *carp* gave him more trouble, and cost him more time than all the fishes he dissected in both his journies to those seas.

Those who had the care of the education of the *Dauphin*, applied to the Academy for fit persons to instruct his R. Highness in *experimental Philosophy*, and *Anatomy*. M. *Roëmer* was appointed for the experimental part, and M. *du Verney* for *Anatomy*. There were at those conferences, besides the *Dauphin*, Dukes, Prelates, and such other learned men, as had curiosity to assist at such conferences.

It is here very remarkable, that it was the great reputation M. *du Verney* had acquired in *Paris*, that was the means of calling him to court, and yet he returned to *Paris* with much
a greater

a greater *eclat*, than even the favor he met with at Court cou'd promise him.

In 1679, he was appointed Profeffor of *Anatomy* in the King's Garden in *Paris*, where he was soon followed by a numerous Audience; 140 foreigners of a year, attended his lectures, who became after great men, both Physicians, and Surgeons in their own country. As it was thought too fatiguing both to lecture upon, and demonstrate the parts, he was allowed a Surgeon ever after, to demonstrate the parts he lectured upon.

M. *du Verney* was the first, who gave lectures on the bones, and their disorders, in the King's garden.

In 1683 he published his treatise on the ear. Many have been surprized, why this was the only thing he ever published; but this was owing to a certain diffidence in himself, too great a delicacy, least he shou'd advance something that was not true. He well knew how forward some men are to describe parts they never had seen, and what is more, never existed; however, this too great a thirst after perfection, as well as too great a sense of fame, have often deprived the world of many valuable works, which to be useful, do not require to be composed with such accuracy, as to be exempt from errors, or human imperfections. To be too forward to publish every thing, or to be diffident of publishing one's works,

works, for fear of the censure of the public, or other such delicacies, are extremes equally to be avoided.

M. *du Verney* was for a long time the only anatomist in the Academy, till M. *Mery* was admitted in 1684; they were ever after rivals, and always opposites, especially in the famous question, about the use of *foramen ovale*; the great advantage M. *du Verney*'s eloquence gave him over his antagonist, *Mery* had it amply made up to him in his known exactness in all his anatomical researches; this exactness served as a counterpoise to the others eloquence.

M. *du Verney* understood perfectly well the comparative anatomy, which if not quite so useful, it has always given great insight into the knowledge of the structure and use of the parts of the human body; some time before his death, he began to revise with M. *Winslow* his treatise on the ear, but did not live to finish it; he bequeathed all his anatomical preparations to the Academy; he died in 1730, aged 82.

M. *Cbirac* was born in 1650; his parents were in too low circumstances to be able to do much for him; he therefore had thoughts of getting into the Church; after he had finished his studies in his own province, *Rouergue*, he went to *Montpellier*, where *Descartes* philosophy then began to be in some repute; he

was not long there, till M. *Chicoyneau*, Chancellor of the University, and Father to the King's late first Physician, took notice of him, and brought him into his house, to instruct his two sons, whom he intended for the profession of Physic. *Chicoyneau* was so well pleased both with the abilities, and care of *Chirac*, that he had him in 1682, received a Doctor of the Faculty, where he made, for five years after, lectures on the several parts of physic, besides private lectures for some select pupils.

When by this means M. *Chirac* thought himself thoroughly master of the theory, he then began to think of applying to practice, and here he took M. *Barbeyrac*, a man then in great vogue in *Montpellier* for his pattern, but with such restrictions, as not blindly to follow him, or forsake those lights he had, or might acquire by his own experience.

In 1692, at the recommendation of M. *Barbeyrac*, he was appointed Physician to the army in *Roussillon*; at the siege of *Roses*, a dysentery appeared among the army; the minister of the war-department sent M. *Chirac* some of the *ipeecacuana*, then known by the name of the *Dutch medicine*; tho' it had been administered all manner of ways, yet it failed here. M. *Chirac* here ordered a whey to be made with a decoction of the cuttings of the vine,

vine, which to his great satisfaction was attended with the desired success.

Some time after an epidemic disorder appeared at *Rocheport*, brought thither from *Siam* by a ship's crew, which was more mortal, and terrifying in its appearance than the above dysentery; *Chirac* now become remarkable for his success in those new and uncommon disorders, was at the request of the intendant of *Rocheport*, ordered by the Court to go to their assistance; he opened 500 persons, and at last discovered the true *genius* and nature of this frightful malady; he also wrote a memorial of the nature and manner of treating it, which he gave the intendant, requesting if he (*Chirac*) should be seized with the same disorder, that no Physician should prescribe or order any other thing for him, but what was set down in said memorial. M. *Chirac*; as he well foresaw, was seized in some time after with this epidemic distemper, and recovered by pursuing the method he had set down in said memorial; a manifest proof that he had discovered its true *genius* and nature.

During his stay at *Rocheport*, the small-pox raged very violently, and was very mortal; upon opening some who died, he observed the brain was always inflamed, he therefore proposed bleeding in the foot, upon the first seizure, as the most effectual method to save the patients life, by making early a pow-

erful revulsion; but he was herein greatly opposed by the Physicians of the town, who looked upon bleeding in the foot, especially in men, to be *mal-practice*, alledging that few ever recovered, who had been bled in the foot; the Physicians upon all occasions arraigned *Chirac*, either of ignorance, or rashness, while the common people accused him of a premeditated design against the whole race of mankind.

Chirac however supported both himself and his practice with spirit, and was allowed in the general to have better success than his adversaries; this practice so warmly then opposed, became in a short time after the general practice in the beginning of the small-pox.

In 1706, he was appointed Physician to the army in *Italy*, commanded by the Duke of *Orleans*; at the siege of *Turin*, the Duke was wounded in the wrist; it was here apprehended, his Royal Highness wou'd lose the whole arm; but *Chirac* opposed the cutting it off, and sent for the waters of *Balaruc*, with which he bathed the arm and wrist, and by that simple application saved both.

When the Duke of *Orleans* returned from the campaign, as he had M. *Homburg* before for his first Physician, he honorably rewarded M. *Chirac*; hereupon *Chirac* purchased the place of a King's Physician, to in-
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title him to practice in *Paris*, as he was not of that University.

Chirac wanted many qualifications to make any figure in the *metropolis*, he spoke very little, and what little he did speak was rather uncourtly and without grace; he never wou'd entertain his patients with a history of the cause of their disorder, which some take great pains to do; but on the contrary, wou'd often as occasion offered, tell them there was more of whim, and fancy, than any thing else in their disorder; he was therefore very laconic in his discourse, and the least complaisant to his patients that cou'd be; his directions must be complied with; he had a happy guess at the first view, he took his indication at once, nothing after cou'd prevail on him to change it; so strong an impression did the disorder make on him, that without acting contrary to the clearest inward conviction, he cou'd not do otherwise; and yet, notwithstanding this inflexibility in his deportment towards his patients, his *vogue* became every day greater and greater; this firmness, and even severity towards his patients, seemed rather to gain him the confidence of the public.

In 1715, upon the death of M. *Homburg*, the Duke of *Orleans*, then Regent, named him his first Physician, he was admitted the same year honorary member of the Royal Academy

Academy, and in the year 1718, he succeeded M. Fagon, the King's first Physician, in the superintendency of the King's Royal physic-garden in *Paris*.

When the *plague* broke out at *Marseilles* in 1720, he cheerfully offered to go to the assistance of that City; but the Regent would not permit him to leave the Court; he then recommended Mess. *Chicoyneau*, his former pupil, and *Verney*, and had four others sent after to assist them; those Physicians, by the intrepidity with which they approached the sick, contributed greatly to raise the drooping spirits of the inhabitants, and at the same time convinced them, that the *plague* was not contagious.

However paradoxical this opinion may appear, it must be allowed it is less hurtful in its consequence than the opposite opinion, as it may assist to strengthen the minds of the people, who in such distressing circumstances are naturally in great confusion, unable to determine what to do.

M. *Chirac* had been long considering in his own mind, how to advance the practice of physic; he well knew that every Physician forms to himself a method of practice, and if he has by close application, and experience, founded upon observation, acquired any knowledge in his profession, it is all for himself; another Physician we will suppose, sets out

out upon the same plan, and forms to himself a particular method, or rule of practice ; it is scarce possible, but those two Physicians must ever differ from each other.

Besides, the observations made in one province are too often intirely unknown to the next province ; for example, they know very little in *Paris*, what is done in *Montpellier*, the history of any disorder, that has ravaged one district is seldom known out of that district.

To remedy all those inconveniencies, and at the same time to fix upon a general, and yet a more uniform method of practice, which might fully obviate those jarrings among Physicians, M. *Cbirac* proposed to establish an Academy, which shou'd consist of 24 Physicians, the most eminent in practice, whose chief business shou'd be to make and collect observations of particular morbid cases ; and at the same time, to open and hold a correspondence with the Physicians of the several Hospitals in the Kingdom, as well as with foreigners. Whenever the *pleurisy* for example, was epidemic in any place, this new phisical Academy was to recommend to their correspondents, to be particular in their description of it, and the different symptoms and other circumstances accompanying it ; and at the same time, to be very particular in their account of the method of cure, and the medicines

dicines that succeeded best, in the several different circumstances.

By this means, says he, we may in a short time expect to have an exact history of the *pleurisy* (and so of all other disorders), together with all the various changes, and symptoms attending it ; as also the method of cure, which shall be found universally, to answer best in all given cases and circumstances.

When this project was laid before the Regent, he approved greatly of it ; but as it was going to take place he died, and with his death, all *Chirac's* projects were nipped in the bud.

It was remarkable, that upon the Regent's death, *Chirac's* return from Court to *Paris*, gave universal joy ; he was every day more and more liked, and had great deference paid to him, even by the Physicians of that vast *metropolis*, who considered him as the *Hippocrates* of the age.

In 1728, the King ennobled him, and upon the death of M. *Dodart*, his first Physician in 1730, appointed him in his place, and he soon after procured M. *Chicoyneau*, formerly his pupil, and at this time his son-in-law, to be nominated Physician to the Princes, the King's children.

Chirac upon this elevation conceived new hopes of establishing his physical Academy, as he had provided the necessary funds for that purpose ;

purpose; but when it was proposed to the faculty of *Paris* for their concurrence, they rejected it, under pretence, that these 24 Physicians, proud of that distinguished rank, wou'd on that very account despise the rest of the Physicians of the faculty, and perhaps take a pleasure to dissent from them, upon every occasion.

Chirac was greatly chagrined at this, as he thought, unnatural opposition, but was determined, by the interest he now had at Court, to establish one without their concurrence; but he died before the thing cou'd be effected, in 1732, aged 82.

He bequeathed 3000 livres to the University of *Montpellier*, to establish two lectures for ever, one in *Anatomy*, the other to explain *Borelli's* treatise *De motu Animalium*.

M. *Petit* the Physician, was born in *Paris* in 1664. He went in 1687 to *Montpellier*, to hear *Chirac's* lectures in Phisic, and in 1690 took a Doctor's degree, and returned after to *Paris*, where he perfected himself under the great men, then professors of Phisic, *du Verney*, *Tournesort*, *Lemery* the father, and was admitted a Doctor of the faculty of *Paris*.

In 1693 he attended the King's hospitals in *Flanders*, and was some time after appointed Inspector of the hospital of *Namur*, and other places. The great care he took, that the medicines allowed each hospital were right good,

had like to cost him dear, from the resentment of the *Providors*, who are never pleased with men of such exactness; he also took care to erect laboratories and anatomical schools in all the hospitals under his inspection. After the peace of *Utrecht* in 1713, he settled in *Paris*, and in 1722 he was admitted into the Academy, and 3 years after a *Pensioner* in *Anatomy*, in the place of the great *du Verney*, who now went out as a *Veteran*.

In 1710 M. *Petit* published three dissertations, in the form of letters. In the first he demonstrated, that the nerves crossed each other at their origin, viz. those of the right went to the left side, and *vice versa*. He likewise plainly shewed, that the *cataract* was no more than the *crystalline* from transparent, become opake, and that the operation for the *cataract* consisted in depressing this *crystalline*, now become useless. He died in 1741, aged 78.

M. *Hunauld* was the son of a Physician, and born in 1701. He very early shewed a great passion for *Anatomy* and *Surgery*.

In 1722 he came to *Paris*, and tho' at that time he was very capable of making lectures, in each of the above branches, yet no man was more assiduous, or attended more closely to the lectures, Messrs. *du Verney* and *Winslow* then made.

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The Academy, upon the good testimony Messrs. *du Verney* and *Winslow* gave of his merit, and willing to attach him to them, had him named a *Socius* in Chemistry in 1724, tho' they well knew his talents lay another way, where he remained 'till 1727, when a *Socius* in *Anatomy* became vacant, which place was then given to him.

M. *Hunauld* at the age of 21, took his Doctor's degree, and in 1738, upon the death of M. *du Verney*, was appointed professor of *Anatomy*, being then but 28 years old, and yet, notwithstanding this great disproportion between his and his predecessor *du Verney's* age, his fame as an *Anatomist* soon brought crowds of hearers, not much inferior to those numbers, who from all parts of *Europe* came to hear his predecessor, which is the more to be considered, as at this time there were a great number of able Anatomists in most parts of *Europe*, who had been bred at the feet of the great *Gamaliel, du Verney*. It was the opinion of judges, had M. *Hunauld* lived to the age of M. *du Verney*, probably he wou'd far exceed him, as an *Anatomist*.

The chief motive M. *Hunauld* had in his application to practice, was to confirm himself in the theory of *Phisic*, well knowing, that as theory is the surest guide to practice, so practice might in many occasions improve theory. It was with this view that he procured

the place of one of the *expectant Physicians* of the *Hôtel Dieu*, where he had an opportunity of observing many different disorders in a day, which enabled him to add many useful remarks in regard to practice, to those lectures he then made on *Boerhave's Aphorisms*.

In 1735, he was chosen a Fellow of the Royal Society, on which occasion he read his reflections on the *fistula lachrymalis*, which are inserted among the *Phil. Transf.*

In 1731, the Royal Academy was appealed to, to determine a question that was started in *Montpellier*, concerning the figure of the heart in its *systole*. The Academy having often experienced his great exactness in all his anatomical researches, appointed him to examine into this affair; after he had made several experiments on living animals, he gave it as his opinion, that the heart grows short in its *systole* *.

M. *Hunauld* in concert with M. *Geoffroy*, was appointed by the Academy in 1737 to examine, whether the *chasing with olive oil* was an antidote against the bite of the viper, as the *English viper* catchers pretend; these Gentlemen made experiments on several kinds of animals, from all which they were unanimous in their opinion, that the *chasing with oil* after the bite of the viper, was not to be depended on; for some died who had been chafed,

* See Vol. III. p. 133.

chafed, and others recovered who had not been chafed with the oil †.

As M. *Hunauld*'s father was still living, and greatly advanced in years, and but in low circumstances, the Academy purchased his cabinet, which was a compleat one in anatomical preparations. The money arising from it, and his library, was remitted to his father; the Academy has besides procured his aged father a farther provision to support him in his old age.

M. *Hunauld* died in *December*, 1742, aged 41.

A succinct Account of some of the principal Chemists of the Royal Academy, whose Memoirs are here abridged.

M. *Lemery* the father, was the son of a *Hugonot* of *Roan*, and born in 1645; after he had finished his collegiate studies in his own town, he applied there to Pharmacy, which he soon perceived he cou'd never be thorough master of without a knowledge of Chemistry, which he cou'd not expect to find in his own province; he accordingly came to *Paris* in 1666, where he closely attended the lectures of M. *Glazer*, then demonstrator in Chemistry in the King's garden in *Paris*.

He went after to *Montpellier*, to perfect himself in Chemistry; he remained there three years,

† See Vol. III. p. 142.

years, and on his return to *Paris* in 1672, he began to make lectures in Chemistry at the Abbé *Bourdelots* conferences, where he was soon followed by several students; even 40 of a year from *Scotland* came to *Paris* to hear his lectures.

Chemists before his time described their operations so enigmatically as not to be understood but by themselves. But M. *Lemery* was the first who attempted to strip Chemistry of all that unintelligible jargon in his *Cours de Chimie* published in 1675, wherein every process is described in so plain a manner as to be intelligible to the meanest capacity. This work was so universally well received, as to be soon after translated into Latin, German, Spanish and English: he lived to see a 10th edition of it, the last being in 1713. In 1681, he began to be persecuted on account of his religion, and imagining a degree in Physics might in some sense protect him, he took a Doctor's degree in the university of *Caen* in *Normandy*; but upon the revocation of the edict of *Nants*, in 1685, the *Hugonots* were forbid to practice Physics, he and all his family became converts, upon which his affairs were greatly changed for the better.

Upon the revival of the Academy in 1699, he was chosen associate Chemist, and soon after, upon the death of M. *Bourdelin*, Pensionary Chemist. In 1707, he published his
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elaborate treatise on antimony; his two other extensive works, his *Pharmacopæa universalis*, and history of Drugs plainly shew, he was a man of great reading, and no less discernment and knowledge in most things; and tho' a Chemist, he does not seem to put that great confidence in chemical preparations, as Chemists generally do; he rather suspected, that Chemists by endeavoring to reduce bodies to their first principles, had often reduced them to nothing; the *analyses* he made were purely to satisfy the curiosity of others. Thus we find the greatest *adepts* are generally less fond or vain of their art. He died in 1715, aged 70.

M. *Homburg* was born in 1652 in *Batavia*, capital of the island of *Java*. He had one sister, who was married there at eight, and became the mother of a child, at nine years old.

In 1674 he was called to the Bar at *Magdeburg*; he soon after became acquainted with the famous *Otto Guericke*, remarkable for his invention of the air-pump, and his other experiments, relating to a *vacuum*, &c.

Our young Barrister soon became enamored with these experiments, and quitting the profession of the law, he applied intirely to the study of Experimental Philosophy. He went after to *Padua*, where he learned both *Anatomy* and *Botany*. From this he went to
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England, where he worked for some time in the great *Boyle's* laboratory, indisputably the best school then in *Europe* for chemical knowledge.

M. *Homberg* return'd to *Holland* to perfect himself in *Anatomy*, under the famous *De Graaf*, and took a Doctor's degree in the university of *Wirttemberg*; but metallurgy seem'd to be his darling passion. On this account he visited the mines of *Saxony*, *Hungary* and *Bohemia*, as well as those of *Sweden*, and worked in the laboratory the King of *Sweden* had then erected; there are several of his Memoirs on Metallurgy in the *Hamburg Journals*.

His father, quite out of all patience with this rambling, press'd him to marry and settle in his own country; just as he was preparing to set out for *Germany*, to join his father, M. *Colbert* made him such advantageous offers in the King's name, that he accepted them; and being for some time before dissatisfied with the *tenets* of the reformed religion, he became a convert in 1682; upon which his father disinherited him.

In some time after, he made a second tour to *Italy*. In his way thither, he became acquainted with the Abbe *Chalucet*, afterwards Bishop of *Toulon*, who was a great admirer of Chemistry. It was here *Homberg* met with one of those adepts, who pretended to the grand secret,

cret, the conversion of metals, as M. *Homberg* expressed his doubts of the possibility of the thing, the other to convince him not only of the possibility, but also of the reality of the matter, gave *Homberg* an *Ingot* of gold of his own manufacture, as he pretended, worth 400 livres; tho' *Homberg* had still his doubts about the matter, he accepted of the *Ingot*, which he confesses stood him in good stead in this his rambling.

He pursued his journey to *Rome* in 1685, where tho' he had good success in his practice; yet being a modest man, he got access but into a very few good families; address and assurance are often the chief means to acquire fame and reputation, where real merit is wanting.

Homberg returned some time after to *Paris*, where his great knowledge in all kinds of *phosphorus's*, his improvements on the air-pump, and his *microscopes* of a new invention, together with his great *address* in all chemical processes, soon made him known, and brought him after into great repute.

In 1691, he was admitted a member of the Royal Academy, and had the Laboratory of the Academy given up to him, where he was at full liberty to make what experiments he pleased.

In 1702, as the Duke of *Orleans* had now no employment worthy of his high birth, he

began to have a taste for Chemistry ; Abbe *du Bois*, his Royal Highness's Preceptor, recommended *Homberg*, as the fittest person to satisfy his curiosity ; the Duke accordingly, fitted up the compleatest laboratory, that was ever known in *Europe*, and settled a pension on *Homberg*. Here the Prince and Philosopher often met ; his Royal Highness soon became very expert in all chemical processes ; the better to compleat the *grand work*, the Duke sent to *Germany* for the most surprizing burning-glass then in the world, made by the famous *Tischernaus*. *Homberg* acquired by this new kind of *furnace*, for greater knowledge than he cou'd ever expect to obtain by his ordinary furnaces.

M. *Homberg* never published any particular work ; his elements of Chemistry were begun to be printed in 1702, in the Memoirs of the Academy, the remainder of them were found after his death, ready for the press ; his way of expressing himself was simple, precise, and methodical ; he was as far from that natural ostentation of the Chemists, as from their mysteriousness, freely communicating his knowledge to all such as were either curious or desirous to be informed ; natural philosophy wou'd undoubtedly have received considerable improvements from him, had he lived some time longer ; for he was not only an expert *Chemist*, but was likewise a person

of

of great *genius*, profound skill, and indefatigable industry.

He died of a dysentery in 1715, aged 65 years.

M. *Geoffroy* the elder, was the son of an Apothecary of *Paris*, born in 1672. as his Father intended him for his own profession, he sent him in 1692, to *Montpellier*, to perfect him in *pharmacy*.

M. *Geoffroy* took this opportunity to attend the lectures made on the several branches of *phific* in that celebrated University; he afterwards travelled round the southern provinces of *France*, to improve himself in natural history, for which he shewed early a very great inclination.

In 1698. M. *Tallard* then going Embassador to *London*, took M. *Geoffroy* with him, in the quality of a *Phisician*, tho' he had not at this time taken any degree in *phific*; during his stay in *London*, he became acquainted with all the learned men of those times, and in 1700, was admitted a Member of the Royal Society.

Upon his return to *Paris*, he accompanied the Abbe *Louvois*, to *Italy*, *Geoffroy* says, in quality of his *Phisician*, but the Abbe said, in that of his friend and companion.

M. *Geoffroy*'s great object was natural history and the *materia medica*; in 1693, he stood an examination for *pharmacy*, but as

his inclination always led him to the study of Nature, he chose the profession of physic, and was accordingly received Doctor of the faculty of *Paris* in 1704. His first *Thesis*, contrary to the custom of the faculty, he made himself; it was this, *utrum medicus est simul mechanicus et Chemicus*. The *Thesis* for his degree was *an homo à verme*. This *Thesis* made so great a noise, and raised the curiosity of the ladies, especially those of the first rank, that in complaisance to them, he was obliged to translate it into *French*, to let them into the mysteries of generation.

Upon the death of M. *Tournefort*, in 1708, he was appointed Professor *Regius* in the Royal College, where he dictated to the students, the history of the *materia medica*, the mineral reign intire, and the vegetable reign alphabetically to *Melissa* only, to the great regret as well as loss of the curious in those matters.*

In 1712. M. *Fagon*, who was professor of Chemistry in the King's garden, resigned that place in his favor, but obliged him to make lectures here also on the *materia medica*.

In 1718. he published his tables of affinities, which in the opinion of judges, has been of more real advantage to Chemistry than any thing hitherto published in that way †, and

* This has been since compleated and published in 3 Vol.
 † See Vol. iv. p. 49.

and if rightly understood, and carried on, might become a fundamental law for chemical operations, and guide the operator with success; he died in 1731; aged 59.

Boulduc the younger, son to the great *Boulduc*, who was for many years demonstrator in Chemistry in the King's garden in *Paris*, apothecary to the King, and after to the Queen, was born in 1675. he succeeded his Father in the above employments; after he had finished his collegiate studies; he applied chiefly to Chemistry under *St. Ron*, then professor of Chemistry in the King's garden in *Paris*.

Boulduc at 24 years old, was admitted a pupil to his Father in Chemistry; he has since given several memoirs in Chemistry; in 1724, he discovered, that a cathartic salt found in a spring near *Madrid*, was a true *Glauber's* salt *, in 1727, he proved that a fossil salt found near *Grenoble* in *Dauphiny*, was a genuine fossil *Glauber* salt †.

In 1730, he proposed a new manner of making corrosive sublimate, without the acid of *nitre*, and in 1731, he discovered the composition of *Seignettes Salpolychrest*, which for many years had remained a profound secret, and as such *Seignette* left it with his family. ‡

What

* See Vol. iv. p. 291.

† Ibid. p. 297.

‡ Ibid. p. 337.

What has done M. *Boulduc* the most honor, is his accurate *analysis* of mineral waters; of *Passy*, in 1726, and those of *Forges* in 1735, which in the opinion of judges, is a master-piece in that kind *.

He also analysed in 1729, the waters of *Bourbon*, and clearly demonstrated that *sulphur* cannot be a constituent principle of these waters †.

Boulduc was an affable, agreeable man, communicative in his profession; in 1712, he was appointed apothecary to the King, and in 1735, to the Queen; he died greatly regretted by their Majesties in 1742, aged 67.

M. *Lemery*, son to M. *Lemery*, the great *Chemist*, was born in *Paris* in 1677, he took his Doctor's degree at the age of 21, and at 23 years old he was admitted into the Academy as an *Eleve* in *Chemistry* to his Father.

In 1702, he published his treatise on food, which tho' greatly liked, and well received by the public, *Andry*, a Physician and one of the writers of the *Journal des Sçavans*, turned into very great ridicule, as his satirical genius always led him.

It was a bold attempt to enter the lists with a man of *Andry's* character, the more so, as he had it in his power to give every week a lash at his adversary, be it right, be it wrong; for as *Pere Malbranche* well observed, there

* See Vol. iii. p. 369.

† *ibid.* p. 329.

there was no contending with a man, who publishes a book every week, or every month, (meaning Journal writers.)

Lemery was not however to be easily disarmed; it is true, he intirely abandoned all thoughts of a defence of his treatise on food; but like a wise Commander, who the sooner to put an end to the war, kindled in his own country, carries it into that of his enemy, with all its desolation and ravages, in order to make reprisals.

M. *Andry* published in 1700, a treatise on worms; notwithstanding the great number of approbations prefixed to that treatise, the weight and reputable characters of their authors, *Lemery* examines this treatise with all the severity of a critic, and selects 29 considerable faults, and some of them glaring blunders, which he set in such a light, that mortified his adversary a good deal, to see himself out-done in censure.

Andry in his reply acknowledged his censor was in the right, as to fifteen of them but as for the remaining 14 he did not think them worthy a reply.

Lemery hereupon takes a review of the whole treatise, and particularly of the fourteen faults *Andry* made so little of, and set the whole in such a light, that it was the opinion of judges, the treatise on worms
wou'd

wou'd never recover the compleat overthrow it then met with.

Andry remained silent, but has ever since been upon a friendly footing with *Lemery*; these criticisms were published in 1704, along with *Lemery's* treatise on the nourishment of the bones.

M. Fagon first Physician to the King, and professor of Chemistry in the King's garden, appointed *Lemery* to make the usual lectures in *Chemistry*, in the place of *M. Berger*, who was now dangerously ill. And tho' *M. Lemery* had but 8 days to prepare himself, he acquitted himself with great honor; *Lemery* had a very happy and easy elocution, and with all a most agreeable tone of voice, which must not only engage, but also command the attention of an audience.

In 1712, he was chosen a *Socius* in Chemistry, and in 1715 a *pensioner*, in the place of his Father, who retired as a *Veteran*.

As one of the King's Physicians, he attended the *Infanta* on her return to *Spain* in 1722; as they passed thro' *Amboise*, he had the curiosity of a naturalist to examine these prodigious horns which are hung up in the palace chapel, and which were hitherto reputed to be natural; under the sanction of the Princess, he had a bit sawed off, by which it appeared they were only wood.

Lemery

Lemery was 33 years Physician of the *Hôtel Dieu*, where he was greatly followed by the Students in Physic, whom he always instructed, as often as occasion offered; the long habit he had of seeing so many different maladies every day, and the same maladies in so many different subjects, procured him a most exquisite knowledge of the pulse, and its variations, and a never failing prognostic; founded upon the same, which must ever reflect honor on the Physician; a thing greatly to be wished for, but what is rarely to be met with; and yet, no man was more remarkably reserved in pronouncing his judgment of disorders, well knowing the many resources *Nature* finds to deliver itself, when seemingly most oppressed; but whenever he pronounced a case mortal, he was never known to be out in his judgment.

Lemery was Physician to the second Dowager *Conti*; he was regularly in her palace from 9 at night, till 9 the next morning; it was here he composed most of his memoirs, a favorable retreat for such compositions; there are 40 of his memoirs among those of the Academy; in his chemical ones he treated of *iron*, its production and use, of *nitre* and other salts, and his analyses of vegetable and animal substances shew how extensive his knowledge in these matters was.

In his disputes with M. *Geoffroy* * his great abilities, as well as his great knowledge in natural History are manifestly evident; he there clearly demonstrates that there is no new production in *Nature*; for what we miscall a new production, is only an unfolding of bodies, already formed.

Nitre since *Mayows* time, was fondly believed to be contained in the air. *Lemery* has for ever totally overthrown this fond opinion, and proved it never can be a fossil salt, but either a vegetable or animal salt; the one easily convertible into the other †.

But he was not so successful in his dispute with M. *Geoffroy* the younger concerning the formation of *sal ammoniac*; ‡ but when *Lemery* was convinced of his error, with that frankness, only to be met with in great minds, he with a good grace retracted all he said against M. *Geoffroy* in 1716; which redounded as much to his honor as if his conjecture, concerning the formation of *sal ammoniac* had been right.

His *analyses* of plants and animals is very instructive; it is remarkable to see how little stress he lays on all those trials by fire; those *analyses* he so often employed in his treatise on *food*, which he confesses so alter the *arrangement* and symmetry of the substances exposed to its action, as to make them appear quite different

* See Vol. iv. p. 124. et seq. † *ibid.* p. 205. ‡ *ibid.* p. 196

different from what they were before, for the *brassica capitata* and deadly night-shade yield by their *analysis* the same principles; thus as became a candid and great Chemist, he is not ashamed to expose the insufficiency of his own *art* for the sake of truth.

Lemery's Memoir of 1709, concerning the nature of *fire* and *light*, and which *Boerhaave* ungenerously made his own, never mentioning *Lemery's* name *, is a pregnant instance of his great knowledge and penetration into natural philosophy; he there demonstrates, that *fire* does not depend upon the violent agitation of matter in general, as *Descartes* and his abettors fancied, nor on the sudden vibration of the *æther* in particular, as others believed; but that *fire* was a real matter, concealed in the pores of all bodies, partaking there of their known properties, such as *impenetrability*, *gravity*, &c. and that the *sun* is the source of this matter of *fire*.

He accidentally discovered, that lead in a certain figure was sonorous; the philosopher only cou'd take notice of this; for how often has lead in the same figure passed thro' the hands of the artist unobserved?

M. de Reaumur has since discovered that lead is rendered sonorous, by casting a small quantity into a spherical or elliptical figure, as in the bottom of an iron ladle; the least

D d d 2

stroke

* See Vol. iv. p. 28.

stroke of a hammer on this sonorous lead wou'd deprive it of that property, as it wou'd flatten the granulated order of its integral parts ; the lead the artist leaves in the ladle, becomes sonorous ; this discovery might have its use in trade ; as bells for clocks might be made of it, much cheaper than of any other metal.

M. *Lemery* was no less a great anatomist than chemist ; he had the honor finally to determine the grand question about the use of the *foramen ovale*, which both parties from 1700, till 1739, so obstinately maintained *, but he had not the same success in his dispute with M. *du Verney*, and *Winslow*, who espoused *du Verney's* opinion, concerning the formation of monsters ; his death prevented it ; the Academy however seemed to think he had carried that point to the greatest degree of probability, the nature of the thing wou'd admit †.

Lemery died in 1743, aged 65.

* See Vol. iii. p. 10.

† See Vol. ii. p. 326 et seq.

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